SANYO

FILE NO.

SERVICE MANUAL

Remote Control Digital Color Television

DP23625 (U.S.A.) (CANADA)

ORIGINAL VERSION

Chassis No. 23625-00

NOTE: Match the Chassis No. on the unit's back cover with the Chassis No. in the Service Manual.

If the Original Version Service Manual Chassis No. does not match the unit's, additional Service Literature is required. You **must** refer to "Notices" to the Original Service Manual prior to servicing the unit.

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Specifications

Power Rating	120VAC 95W (Avg), 1.8A (Max)
Antenna Input Impedance	75Ω UHF/VHF/CATV
Receiving Channel	2 - 13 (VHF), 14 - 69 (UHF), 01, 14-94, 95-125 (CATV)
Remote Ready	25 Key Remote Control
Sound Output	2.0 W/CH
Intermediate Frequency	
Picture IF Carrier	45.75MHz
Sound IF Carrier	41.25MHz
Color Sub Carrier	42.17MHz
LCD	V230W1-L02
Cabinet Dimensions	
Width	692mm
Height	385mm
Depth including base	181mm

SAFETY INSTRUCTIONS

SAFETY PRECAUTIONS

1. Comply with all caution and safety-related notes provided on the side of the cabinet, inside the cabinet, and on the chassis,

2. When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as control knobs, adjustment covers, shields and barriers.

3. Before replacing the back cover of the set, thoroughly inspect the inside of the cabinet to see that no stray parts or tools have been left inside.

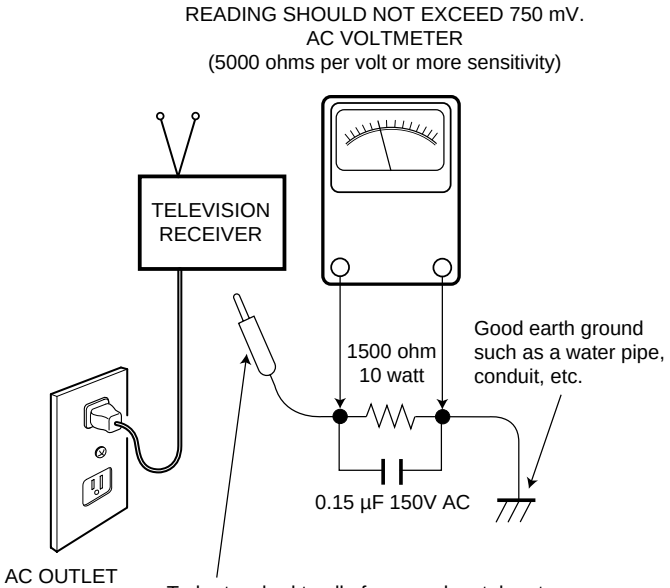
ANTENNA COLD CHECK

Remove AC plug from the 120 VAC outlet and place a jumper across the two blades. Connect one lead of an ohmmeter to the jumpered AC plug, and touch the other lead to each exposed antenna terminal (UHF and VHF antenna terminals). The resistance must measure between 1M ohm and 5.2M ohm. Any resistance value below or above this range indicates an abnormality which requires corrective action.

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120 VAC outlet. (Do not use an isolation transformer for this check.) Use an AC voltmeter, that has 5000 ohms per volt or more sensitivity. Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 µF 150 VAC capacitor, between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of the cabinet (antennas, handle bracket, metal cabinet, screw heads, metal overlays, control shafts, etc.). Measure the AC voltage across the 1500 ohm resistor. The AC voltage should not exceed 750 mV. A reading exceeding 750 mV indicates that a dangerous potential exists. The fault must be located and corrected. Repeat the above test with the receiver power plug reversed.

NEVER RETURN A RECEIVER TO THE CUSTOMER WITHOUT TAKING THE NECESSARY CORRECTIVE ACTION.


READING SHOULD NOT EXCEED 750 mV.
AC VOLTMETER
(5000 ohms per volt or more sensitivity)
TELEVISION RECEIVER
1500 ohm 10 watt
Good earth ground such as a water pipe, conduit, etc.
0.15 µF 150V AC
AC OUTLET
To be touched to all of exposed metal parts.
Voltmeter Hook-up for Leakage Current Check.

PRODUCT SAFETY NOTICE

When replacing components in a receiver, always keep in mind the necessary product safety precautions. Pay special attention to the replacement of components marked with a star (★) in the parts list and in the schematic diagrams. To ensure safe product operation, it is necessary to replace those components with the exact same PARTS.

SERVICE ADJUSTMENTS

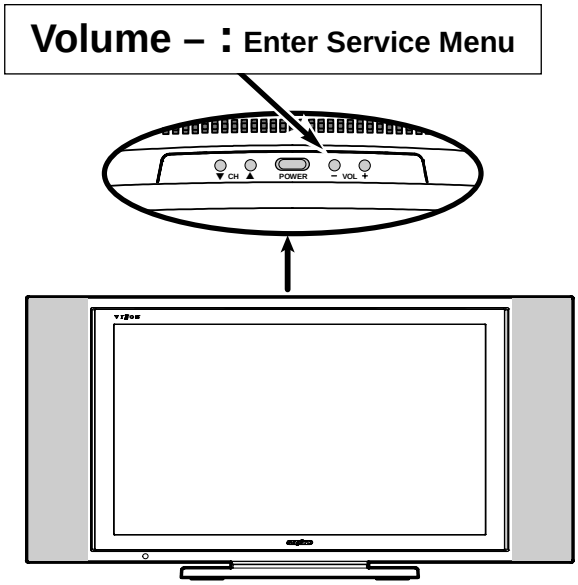
GENERAL

This set has an On-screen Service Menu system included in the CPU that allows remote operation for most of the service adjustments.

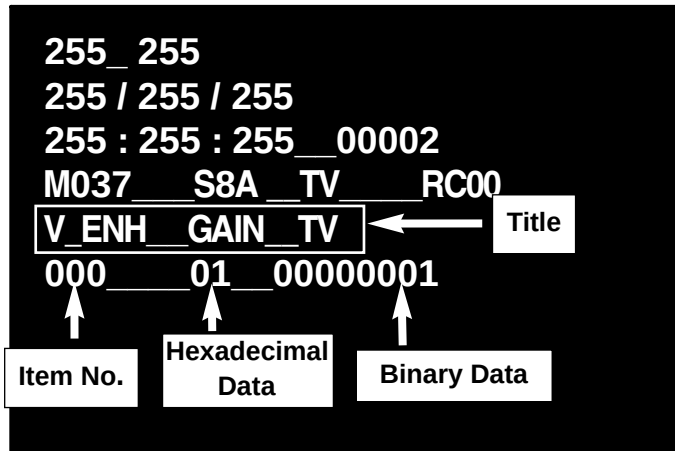
ON-SCREEN SERVICE MENU SYSTEM

1. Enter the Service Menu:

- While pressing the Volume (–) button on the television, press the Number Key 1 on the remote control unit. The Service Menu will now appear.



Service Menu Display



2. Service Adjustments:

- Press the ▲ or ▼ key to select the desired service menu item you want to adjust. See page 4 for the On-screen Service Menu.

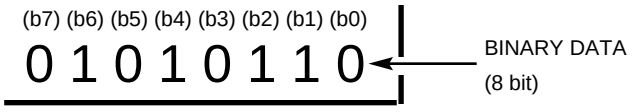
Note: Press the **Mute** key to skip up 16 items.

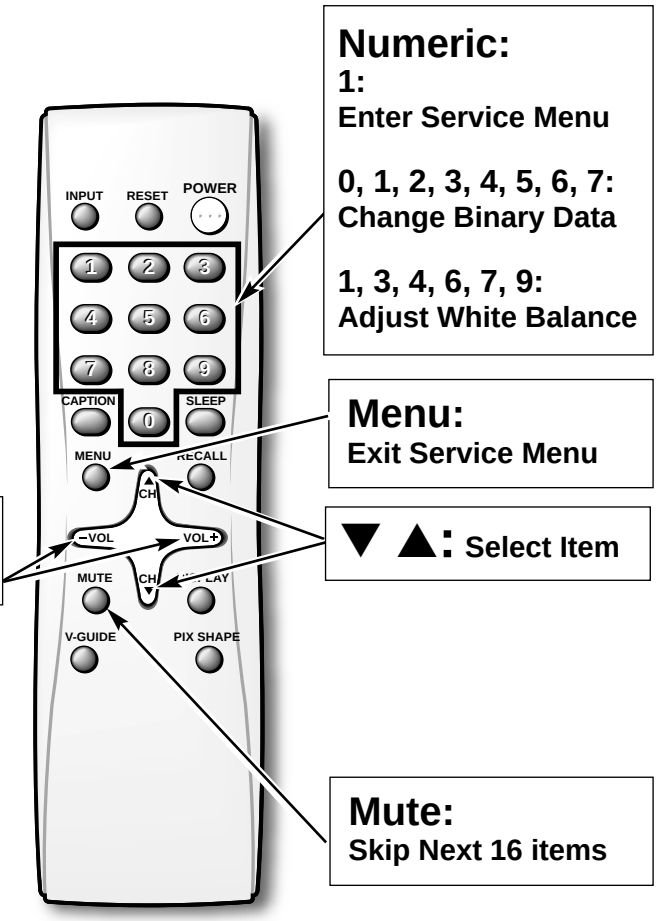
- Use the + or – key or number keys to adjust the data. The + or – keys will increase or decrease the data sequentially. The number keys (0 ~ 7) toggle only their respective bits between 1 and 0 and are used to change the Sub-Address. For example to change bit 5 press the number 5 key. See below.

Note: Using the + or – is not recommended due to possible rapid changes.

3. Exit from the Service Menu:

- Press the **MENU** key to turn off the Service Menu display.





ON-SCREEN SERVICE MENU

No.	Name	Initial Data	Note
000	V ENH GAIN TV	01h	RF input
001	V ENH GAIN OTHER	01h	Except RF
002	V ENH MAX POINT TV	03h	RF input
003	V ENH MAX POINT OTHER	03h	Except RF
004	V ENH SLICE LEVEL TV	00h	RF input
005	V ENH SLICE LEVEL OTHER	00h	Except RF
006	FENH TV	01h	RF input
007	FENH OTHER	01h	Except RF
008	SHARPNESS GAIN TV	01h	RF input
009	SHARPNESS GAIN OTHER	01h	Except RF
00A	SHARPNESS SLICE LEVEL TV	00h	RF input
00B	SHARPNESS SLICE LEVEL OTHER	00h	Except RF
00C	FBCLMPEX	01h	
00D	NOISE CANCEL TV	00h	RF input
00E	NOISE CANCEL OTHER	00h	Except RF
00F	SET DELAY–TV	06h	RF input
010	SET DELAY–Video	0Bh	Composite Video input
011	SET DELAY–OTHER	08h	Except RF and Composite Video input
012	LTI GAIN TV	03h	RF input
013	LTI GAIN OTHER	03h	Except RF
014	LTI SLICE LEVEL TV	00h	RF input
015	LTI SLICE LEVEL OTHER	00h	Except RF
016	CTI GAIN TV	03h	RF input
017	CTI GAIN OTHER	03h	Except RF
018	CTI SLICE LEVEL TV	00h	RF input
019	CTI SLICE LEVEL OTHER	00h	Except RF
01A	CONTRAST TV	30h	RF input, (See Service Adjustments)
01B	CONTRAST AV	30h	Video1/2, Composite, S input
01C	CONTRAST 480i/p	30h	480i/p input
01D	CR OUTPUT GAIN TV	03h	RF input
01E	CR OUTPUT GAIN AV	03h	Video1/2, Composite, S input
01F	CR OUTPUT GAIN 480i/p	03h	480i/p input
020	CB OUTPUT GAIN TV	03h	RF input
021	CB OUTPUT GAIN AV	03h	Video1/2, Composite, S input
022	CB OUTPUT GAIN 480i/p	03h	480i/p input
023	CR OFFSET–TV	00h	RF input
024	CR OFFSET–AV	00h	Video1/2, Composite, S input
025	CR OFFSET–480i	00h	480i input
026	CR OFFSET–480p	00h	480p input
027	CB OFFSET–TV	00h	RF input
028	CB OFFSET–AV	00h	Video1/2, Composite, S input
029	CB OFFSET–480i	01h	480i input
02A	CB OFFSET–480p	01h	480p input
02B	HUE–TV	00h	RF input
02C	HUE–AV	00h	Video1/2, Composite, S input

- All data except in gray box area is fixed. Do not change for correct operation.
- Data in gray box is initial. Can be set according to adjustment information.

No.	Name	Initial Data	Note
02D	HUE–480i/p	00h	480i/p input
02E	TOF TV	01h	RF input
02F	TOF OTHER	01h	Except RF
030	Y–CLAMP–MAIN	00h	Except 480i/p
031	Y–CLAMP–480i	6Dh	480i input
032	Y–CLAMP–480p	6Dh	480p input
033	C–CLAMP–MAIN	00h	Except 480i/p
034	C–CLAMP–480i	00h	480i input
035	C–CLAMP–480p	80h	480p input
036	C–CLAMP F–MAIN	00h	Except 480i/p
037	C–CLAMP F–480i	6Fh	480i input
038	C–CLAMP F–480p	6Dh	480p input
039	COL–KILLER TV	07h	RF input
03A	COL–KILLER AV	07h	Video1/2, Composite, S input
03B	ACC TV	08h	RF input
03C	ACC AV	08h	Video1/2, Composite, S input
03D	PLL–TV AMP1	00h	RF input
03E	PLL–TV AMP2	04h	↓
03F	PLL–TV AMP3	05h	↓
040	PLL–TV GAIN1	0Eh	↓
041	PLL–TV GAIN2	05h	↓
042	PLL–TV GAIN3	06h	↓
043	PLL–AV AMP1	00h	Video1/2, Composite, S input
044	PLL–AV AMP2	04h	↓
045	PLL–AV AMP3	05h	↓
046	PLL–AV GAIN1	0Eh	↓
047	PLL–AV GAIN2	05h	↓
048	PLL–AV GAIN3	06h	↓
049	PLL–480i/p AMP1	00h	Video3, Component(480i/p) input
04A	PLL–480i/p AMP2	04h	↓
04B	PLL–480i/p AMP3	05h	↓
04C	PLL–480i/p GAIN1	0Eh	↓
04D	PLL–480i/p GAIN2	05h	↓
04E	PLL–480i/p GAIN3	06h	↓
04F	HDPH COMP	00h	RF, Composite input
050	HDPH S	02h	S input
051	HDPH 480i	0Eh	480i input
052	HDPH 480p	00h	480p input
053	Y NOISE LIM TV	00h	RF input
054	Y NOISE LIM OTHER	00h	Except RF
055	Y NOISE GAIN TV	01h	RF input
056	Y NOISE GAIN OTHER	00h	Except RF
057	Y NOISE TV	01h	RF input
058	Y NOISE OTHER	00h	Except RF
059	COL–KILLER GAIN TV	01h	RF input
05A	COL–KILLER GAIN OTHER	01h	Except RF
05B	C NOISE LIM TV	01h	RF input
05C	C NOISE LIM OTHER	01h	Except RF
05D	C NOISE GAIN TV	00h	RF input
05E	C NOISE GAIN OTHER	00h	Except RF
05F	C NOISE TV	01h	RF input

No.	Name	Initial Data	Note
060	C NOISE OTHER	00h	Except RF
061	480i Sub–Cont	00h	Component (480i) input (Difference)
062	480i Sub–Brightness	00h	↓
063	480i Sub–Color	00h	↓
064	480i Sub–Tint	00h	↓
065	480i Sub–Sharp	00h	↓
066	480p Sub–Cont	00h	Component (480p) input (Difference)
067	480p Sub–Brightness	00h	↓
068	480p Sub–Color	00h	↓
069	480p Sub–Tint	00h	↓
06A	480p Sub–Sharp	00h	↓
06B	AV Sub–Cont	00h	Composite Video input (Standard)
06C	AV Sub–Brightness	0Fh	↓
06D	AV Sub–Color	08h	↓
06E	AV Sub–Tint	0Ah	↓
06F	AV Sub–Sharp	10h	↓
070	S Sub–Cont	00h	S Video input (Difference)
071	S Sub–Brightness	00h	↓
072	S Sub–Color	00h	↓
073	S Sub–Tint	00h	↓
074	S Sub–Sharp	00h	↓
075	RF Sub–Cont	00h	RF input (Difference)
076	RF Sub–Brightness	00h	↓
077	RF Sub–Color	00h	↓
078	RF Sub–Tint	00h	↓
079	RF Sub–Sharp	00h	↓
			Composite, S, Component input, Picture: Auto
07A	Auto Contrast	0Ah	↓ (See Service Adjustments)
07B	Auto Tint	22h	↓
07C	Auto Color	28h	
07D	Auto Brightness	20h	↓
07E	Auto Sharpness	10h	↓
			Composite, S, Component input, Picture: Manual
07F	Man. AV Contrast	2Fh	↓ (See Service Adjustments)
080	Man. AV Tint	20h	↓
081	Man. AV Color	28h	↓
082	Man. AV Brightness	20h	↓
083	Man. AV Sharpness	10h	↓
			Composite, S, Component input, Picture: Game
084	Game AV Contrast	10h	↓
085	Game AV Tint	20h	↓
086	Game AV Color	10h	↓
087	Game AV Brightness	20h	↓
088	Game AV Sharpness	07h	↓
089	White–RF–R	00h	RF(TV) input, White Balance (Difference)
08A	White–RF–G	00h	↓
08B	White–RF–B	00h	↓
08C	Black–RF–R	00h	RF(TV) input, Black Balance (Difference)
08D	Black–RF–G	00h	↓
08E	Black–RF–B	00h	↓

No.	Name	Initial Data	Note
08F	White–AV–R	5Ch	Composite (AV) input, White Balance (Standard)
090	White–AV–G	5Ah	↓
091	White–AV–B	5Ah	↓
092	Black–AV–R	30h	Composite (AV) input, Black Balance (Standard)
093	Black–AV–G	30h	↓
094	Black–AV–B	30h	↓
095	White–S–R	00h	S (AV) input, White Balance (Difference)
096	White–S–G	00h	↓
097	White–S–B	00h	↓
098	Black–S–R	00h	S (AV) input, Black Balance (Difference)
099	Black–S–G	00h	↓
09A	Black–S–B	00h	↓
09B	White–480i–R	00h	480i(Component) input, White Balance (Difference)
09C	White–480i–G	00h	↓
09D	White–480i–B	00h	↓
09E	Black–480i–R	00h	480i(Component) input, Black Balance (Difference)
09F	Black–480i–G	00h	↓
0A0	Black–480i–B	00h	↓
0A1	White–480p–R	00h	480p (Component) input, White Balance (Difference)
0A2	White–480p–G	00h	↓
0A3	White–480p–B	00h	↓
0A4	Black–480p–R	00h	480p (Component) input, Black Balance (Difference)
0A5	Black–480p–G	00h	↓
0A6	Black–480p–B	00h	↓
0A7	CT–Cool–R	F6h	Color Enhancer: Cool
0A8	CT–Cool–G	FBh	↓
0A9	CT–Cool–B	00h	↓
0AA	CT–Norm–R	00h	Color Enhancer: Normal
0AB	CT–Norm–G	00h	↓
0AC	CT–Norm–B	00h	↓
0AD	CT–Warm–R	00h	Color Enhancer: Warm
0AE	CT–Warm–G	F2h	↓
0AF	CT–Warm–B	00h	↓
0B0	Sharp F0 RF	02h	RF input, Sharpness: Center
0B1	Sharp F0 OTHER	02h	Other input, Sharpness: Center
0B2	Sharp F0 480p	02h	480p input, Sharpness: Center
0B3	GAMMA1	01h	Under APL setting value
0B4	GAMMA2	01h	Beyond APL setting value
0B5	GAMMA APL	00h	Gamma Threshold
0B6	NOSIG	00h	Select Sync.
0B7	BCSB	00h	Cut of Sub-Bass or Setup of Boost
0B8	BCST	00h	Cut of Sub-Treble or Setup of Boost
0B9	SUB–BASS	00h	Setup of Cut Level of Sub Bass and Boost Level
0BA	SUB–TREB	00h	Setup of Cut Level of Sub Treble and Boost Level
0BB	BBE–Low	0Ah	Setup of Low-Pass Boost Level (Lo contour)
0BC	BBE–High	08h	Setup of High Region Boost Level (Process)
0BD	AGC	00h	AGC ON/OFF
0BE	AGC–LEVEL	00h	AGC Level Setup
0BF	WB	**	White Balance Adjustment
0C0	BB	**	Black Balance Adjustment
0C1	AUTO B-Bright	00h	Back Light Auto Bright (Absolute value)

No.	Name	Initial Data	Note
0C2	BLight–Bright	F0h	Back Light Bright (PWM value)
0C3	BLight–Mid	B0h	Back Light Middle (PWM value)
0C4	BLight–Dark	60h	Back Light Dark (PWM value)
0C5	APL–SW	01h	APL Switch
0C6	APL–PER	10h	AI Cycle (8ms/step)
0C7	APL–LO	36h	APL Low-Pass and Inside Region Threshold
0C8	APL–HI	48h	APL Inside and High Region Threshold
0C9	APL–MIN	10h	Gamma Minimum Value (Table No.)
0CA	APL–CEN	24h	Gamma Center Value (Table No.)
0CB	APL–MAX	48h	Gamma Maximum Value (Table No.)
0CC	APL–READ–NUM	05h	Number of APL Read-out Times
0CD	APL–READ–PER	01h	APL Read-out Cycle
0CE	APL–0	70h	APL Read-out Value (APL=0%: Black)
0CF	APL–100	E0h	APL Read-out Value (APL=100%: White)
0D0	POWER ERR	00h	Power Failure History
0D1	OPTION	**h	Option Monitor (Read-out)
0D2	PANEL TIME1	**h	Used Time of LCD Panel
0D3	PANEL TIME2	**h	Used Time of Unit
0D4	OSD HP	00h	OSD H-Phase
0D5	CCD HP	00h	CCD H-Phase
0D6	CCD Slicer Level	0Bh	CCD Slicer Level
0D7	PASSWORD	00h	Password
0D8	VUP FULL	01h	
0D9	VUP JUST	01h	
0DA	VUP ZOOM	01h	
0DB	VUP NORMAL	01h	
0DC	VSC FULL	0Ah	
0DD	VSC JUST	07h	
0DE	VSC ZOOM	04h	
0DF	VSC NORMAL	0Ah	
0E0	HSC1 N FULL	0Fh	
0E1	HSC1 N JUST	0Fh	
0E2	HSC1 N ZOOM	0Fh	
0E3	HSC1 N NORMAL	0Bh	
0E4	HSC1 D FULL	1Eh	
0E5	HSC1 D JUST	08h	
0E6	HSC1 D ZOOM	1Eh	
0E7	HSC1 D NORMAL	10h	
0E8	HSC2 N FULL	13h	
0E9	HSC2 N JUST	07h	
0EA	HSC2 N ZOOM	07h	
0EB	HSC2 N NORMAL	0Ch	
0EC	HSC2 D FULL	0Fh	
0ED	HSC2 D JUST	0Fh	
0EE	HSC2 D ZOOM	0Fh	
0EF	HSC2 D NORMAL	11h	
0F0	HST FULL	76h	
0F1	HST JUST	68h	
0F2	HST ZOOM	76h	
0F3	HST NORMAL	2Fh	

No.	Name	Initial Data	Note
0F4	VST FULL	44h	
0F5	VST JUST	54h	
0F6	VST ZOOM	7Eh	
0F7	VST NORMAL	44h	
0F8	VUP FULL 480p	01h	
0F9	VUP JUST 480p	01h	
0FA	VUP ZOOM 480p	01h	
0FB	VUP NORMAL 480p	01h	
0FC	VSC FULL 480p	0Ah	
0FD	VSC JUST 480p	07h	
0FE	VSC ZOOM 480p	04h	
0FF	VSC NORMAL 480p	0Ah	
100	HSC1 N FULL 480p	0Fh	
101	HSC1 N JUST 480p	0Fh	
102	HSC1 N ZOOM 480p	07h	
103	HSC1 N NORMAL 480p	04h	
104	HSC1 D FULL 480p	1Eh	
105	HSC1 D JUST 480p	08h	
106	HSC1 D ZOOM 480p	0Eh	
107	HSC1 D NORMAL 480p	06h	
108	HSC2 N FULL 480p	13h	
109	HSC2 N JUST 480p	07h	
10A	HSC2 N ZOOM 480p	07h	
10B	HSC2 N NORMAL 480p	0Ch	
10C	HSC2 D FULL 480p	0Fh	
10D	HSC2 D JUST 480p	0Fh	
10E	HSC2 D ZOOM 480p	0Fh	
10F	HSC2 D NORMAL 480p	11h	
110	HST FULL 480p	98h	
111	HST JUST 480p	94h	
112	HST ZOOM 480p	98h	
113	HST NORMAL 480p	8Ah	
114	VST FULL 480p	4Ch	
115	VST JUST 480p	5Ch	
116	VST ZOOM 480p	89h	
117	VST NORMAL 480p	4Fh	
118	R001	00h	ROM Correction Data
119		00h	ROM Correction Data
11A		00h	ROM Correction Data
↓		↓	↓
↓		↓	↓
↓		↓	↓
1B0		00h	ROM Correction Data
1B1		00h	ROM Correction Data
1B2		00h	ROM Correction Data

SERVICE ADJUSTMENTS (Continued)

WHITE BALANCE ADJUSTMENT

Composite (External Video Input)

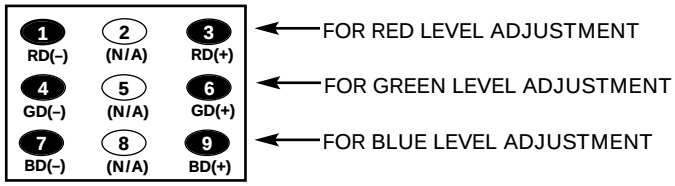
1. Connect a color-bar generator to the **external (composite) video input terminal**.
2. Switch the generator to the white pattern.
3. Set the television to following conditions:

Picture:	AUTO
Color Enhancer:	Normal
Back Light:	Bright
Display Area:	4:3

4. Enter the Service Mode. The Menu display will appear.
5. Select "White Balance Adjustment" Menu (No. 0BF).
6. Adjust Red, Green, and Blue Levels alternately with 1, 3, 4, 6, 7, or 9 keys to produce normal black and white picture in highlight areas.

   The White Balance Level adjustment data will be written automatically in the Service Menu No. 08F(R), No. 090(G), and No. 091(B).

Note: One or two data of RGB should be left at "5C" for normal contrast level. Do not change the data to more than "5C."



Remote Control Number keys' functions in Service Menu "White Balance Adjustment"

Other Inputs

Caution: White Balance Adjustment of **Composite** must be completed before attempting other input adjustments.

White Balance Adjustment for other modes [RF, S (Y/C), Component (480i/ 480p)] may be unnecessary if the adjustment of Composite is OK.

1. Connect a color-bar generator to the preferred video input terminal.
2. Switch the generator to the white pattern.
3. Set the television to following conditions:

Picture:	AUTO
Color Enhancer:	Normal
Back Light:	Bright
Display Area:	16:9

4. Enter the Service Mode.The Menu display will appear.
5. Select "White Balance Adjustment" Menu (No. 0BF).
6. Adjust Red, Green, and Blue Levels alternately with 1, 3, 4, 6, 7, or 9 key to produce normal black and white picture in highlight areas.

   The White Balance Level adjustment data will be written automatically in the following Service Menu:

RF	No 89 (R), 8A (G), 8B (B)
S (Y/C)	No. 95 (R), 96 (G), 97 (B)
Component (480i)	No. 9B (R), 9C (G), 9D (B)
Component (480p)	No. A1 (R), A2 (G), A3 (B)

BLACK BALANCE ADJUSTMENT

Black Balance Adjustment may be unnecessary if the White Balance Adjustment of Composite is OK.

Composite (External Video Input)

1. Connect a color-bar generator to the **external (composite) video input terminal**.
2. Switch the generator to the dark grey pattern ("30% white" recommended).
3. Set the television to following conditions:

Picture:	AUTO
Color Enhancer:	Normal
Back Light:	Bright
Display Area:	16:9

4. Enter the Service Mode. The Menu display will appear.
5. Select "Black Balance Adjustment" Menu (No. 0C0).
6. Adjust Red, Green, and Blue Levels alternately with 1, 3, 4, 6, 7, or 9 key to produce normal black and white picture in dark grey areas. The Black Balance Level adjustment data will be written automatically in the Service Menu No. 092(R), No. 093(G), and No. 094(B).

Other Inputs

Caution: Black Balance Adjustment of **Composite** must be completed before attempting other input adjustments.

1. Connect a color-bar generator to the preferred video input terminal.
2. Switch the generator to the dark gray pattern.
3. Set the television to following conditions:

Picture:	AUTO
Color Enhancer:	Normal
Back Light:	Bright
Display Area:	16:9

4. Enter the Service Mode.The Menu display will appear.
5. Select "Black Balance Adjustment" Menu (No. 0C0).
6. Adjust Red, Green, and Blue Levels alternately with 1, 3, 4, 6, 7, or 9 key to produce normal black and white picture in dark grey areas. The Black Balance Level adjustment data will be written automatically in the following Service Menu.

RF	No 8C (R), 8D (G), 8E (B)
S (Y/C)	No. 98 (R), 99 (G), 9A (B)
Component (480i)	No. 9E (R), 9F (G), A0 (B)
Component (480p)	No. A4 (R), A5 (G), A6 (B)

POWER FAILURE CIRCUIT

CPU (IC801) is programmed so the set will go to the standby mode when there is circuit failure as described below. (Refer to “Block Diagram Power Lines” and “Block Diagram Power Board”).

1. **Power Failure 1:** Detected voltage failure for digital circuit. (Connected to IC801 pin 1.)
2. **Power Failure 2:** Detected voltage failure for analog circuit. (Connected to IC801 pin 16.)

(Normal: High; Failure: Low)

Note: If power failure is detected 3 times in 15 minutes, the set will enter the standby mode and cannot be switched On.To reset the operating programs of the CPU it is necessary to disconnect the AC cord or AC adapter for a short time.

History of Power Failure

When finishing the repair or stopping the Power Failure, the history of past failures can be checked.

To see the history

1. Enter the service mode. See “Service Adjustments” page 3.
2. Select **Item No.0D0** POWER ERR from the Service Adjustment Data Table.

History of Power Failures (Item No. 0C9)

Failure Name	Data
No Failure	00h(0)
Power Failure 1	01h(1)
Power Failure 2	02h(2)

Note: If simultaneous failures have been detected, the sum of each data is displayed.

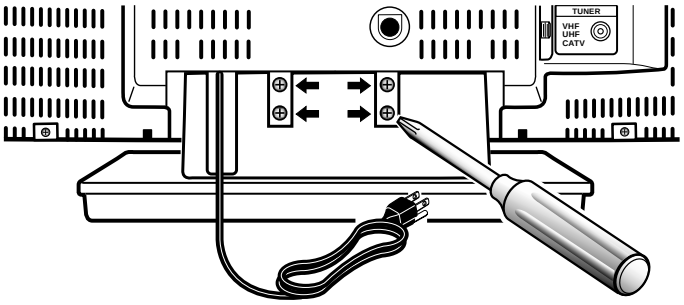
For example:
Power failures 1 & 2
01h + 02h = **03h(3)**

Attention:

After finishing service, reset the data of **Item No. 0D0** with the + or – keys to **“00h(0).”**

MECHANICAL DISASSEMBLY

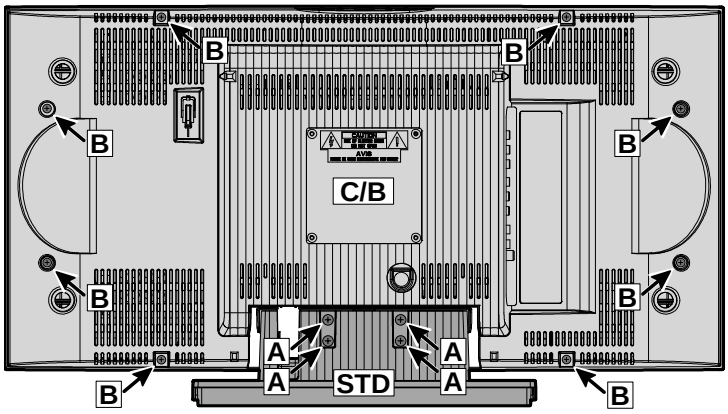
CAUTION: This LCD TV uses several different kinds of screws. Using the correct screw is necessary to prevent damage. Lead wires must be redressed to their previous locations after servicing.



STAND REMOVAL

Note: Position TV face down on a padded or cushioned surface to protect the screen and finish.

Remove 4 screws to take the stand off.



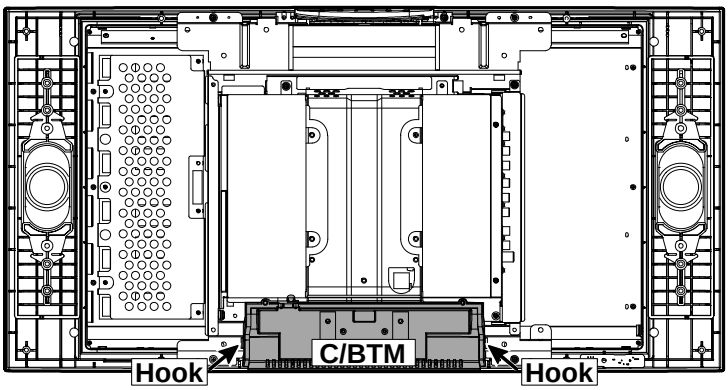
CABINET BACK REMOVAL

Remove 6 screws (**B** : 4X14) to take the cabinet back (**C/B**) off.

Note: The cabinet back can be removed without removing the stand.

CABINET BOTTOM REMOVAL

Press 2 hooks inside to remove the cabinet bottom (**C/BTM**).

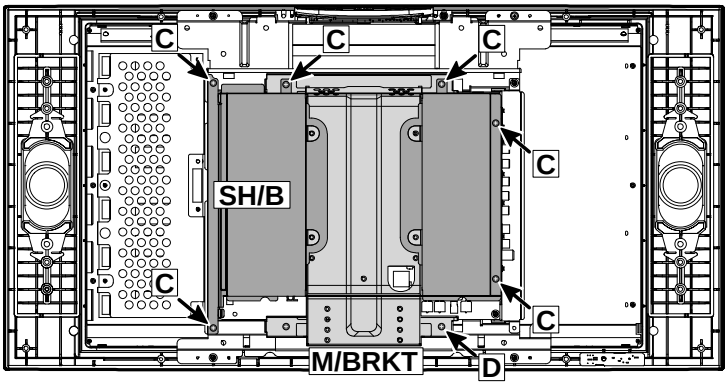


SHIELD BACK REMOVAL

Remove 6 screws (**C**: 3X10) to remove the shield back (**SH/B**).

MOUNTING BRACKET REMOVAL

Remove a screw (**D**: 3X10) to remove the mounting bracket (**M/BRKT**).



MAIN BOARD REMOVAL

Remove 5 screws (**E**: 3X10) to remove the main board with the terminal base (**TMNL/B**) and audio output jacks (**MO/JACK**) (assembly parts).

RC BOARD REMOVAL

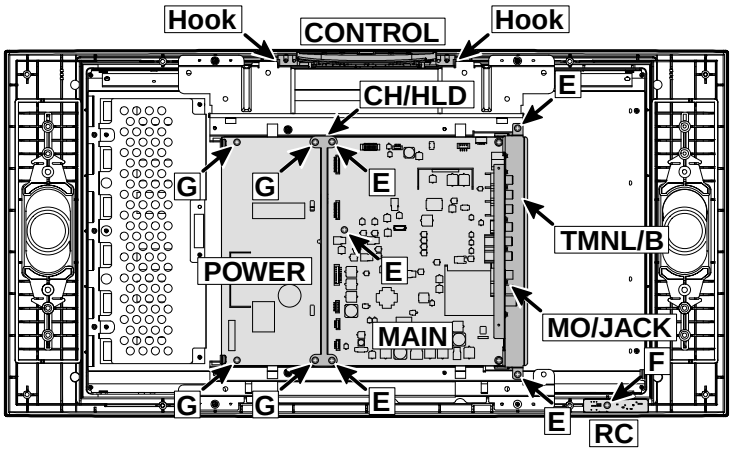
Remove a screw (**F**: 4X14) to remove the RC board.

POWER BOARD REMOVAL

Remove 4 screws (**G**: 3X10) to remove the power board with the chassis holder (**CH/HLD**) (assembly parts).

CONTROL BOARD REMOVAL

Press 2 hooks inside to remove the control board with the panel top and button assembly.



SPEAKER REMOVAL

Remove 4 holders (**SP/HLD**) to remove speakers.

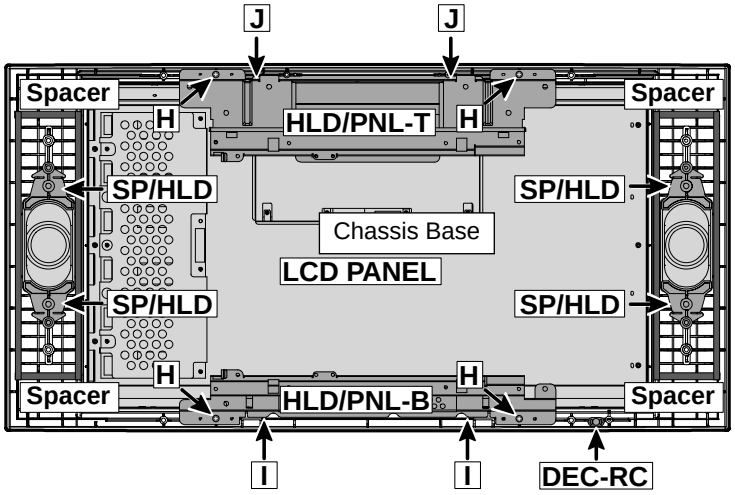
LCD PANEL REMOVAL

1. Remove 4 screws (**H**: 3X10) to remove the LCD panel with the top (**HLD/PNL-T**) and bottom (**HLD/PNL-B**) panel holders.
2. Remove 2 screws (**J**: 3X10) to remove the top panel holder (**HLD/PNL-T**).
3. Remove 2 screws (**I**: 3X10) to remove the bottom panel holder (**HLD/PNL-B**).

CABINET FRONT REMOVAL

1. Complete previous disassembly procedures.
2. Remove spacer (Buffer tape) and DEC-RC (Decoration for remote control receiver).

Note: The spacers can be reused.



CHASSIS ELECTRICAL PARTS LIST

CAUTION: To Protect against electrical shock and for continued product safety, refer to SAFETY PRECAUTIONS, and PRODUCT SAFETY NOTICE on Page 2.

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. COMPONENTS INDICATED BY A STAR (★) IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS DESIGNATED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT DESIGNATED BY A STAR. NO DEVIATIONS FROM RESISTANCE, WATTAGE, AND VOLTAGE RATINGS MAY BE MADE FOR REPLACEMENT ITEMS DESIGNATED BY A STAR.

Note: Schematic part location numbers may not always match with the part descriptions.
The part descriptions are correct and should be used.

Schematic Location	Part No.	Description

CAPACITORS

NOTES:
Read description of the Capacitor as follows:

(Example)

CERAMIC 100P K 50V

- 50V — Rated Voltage
- K — Tolerance Symbols:

less than 10PF

A . .Not specified
B . .±0.1PF C . .±0.25PF
D . .±0.5PF F . .±1PF
G . .±2PF R . .+0.25 - 0PF
S . .+0 - 0.25PF E . .+0 - 1PF

more than 10PF

A . .Not specified
B . .±0.1% C . .±0.25%
D . .±0.5% F . .±1%
G . .±2% H . .±3%
J . .±5% K . .±10%
L . .±15% M . .±20%
N . .±30% P . .+100 - 0%
Q . .+30 - 10% T . .+50 - 10%
U . .+75 - 10% V . .+20 - 10%
W .+100 - 10% X . .+40 - 20%
Y . .+150 - 10% Z . .+80 - 20%

- 100P — Rated Value: P...Pico Farad U...Micro Farad
- CERAMIC — Material:

CERAMIC . . . . . .Ceramic
MT-PAPER . . . . .Metalized Paper
POLYESTER . . .Polyester
MT-POLYEST . .Metalized Polyester
POLYPRO . . . . .Polypropylene
MT-POLYPRO . .Metalized Polypropylene
COMPO-FILM . .Composite Film
MT-COMPO . . . .Metalized Composite
STYRENE . . . . . .Styrene
TA-SOLID . . . . . .Tantalum Solid
AL-SOLID . . . . . .Aluminum Solid
ELECT . . . . . .Electrolytic
NP-ELECT . . . . .Non-Polarized Electrolytic
OS-SOLID . . . . .Aluminum Solid with Organic Semiconductive Electrolytic

Schematic Location	Part No.	Description		
C002	403 296 9502	ELECT	100U M	16V
	403 391 5102	ELECT	100U M	16V
C003	403 184 8402	ELECT	4.7U M	25V
	403 391 5706	ELECT	4.7U M	25V
C006	403 393 0006	ELECT	470U M	25V
	403 420 1402	ELECT	470U M	25V
C007	403 393 0006	ELECT	470U M	25V
	403 420 1402	ELECT	470U M	25V
C021	403 364 5801	CERAMIC	1U K	10V
C022	403 224 5903	CERAMIC	3300P K	50V
C023	403 364 5801	CERAMIC	1U K	10V
C024	403 224 5903	CERAMIC	3300P K	50V
C026	403 364 5900	CERAMIC	0.22U K	16V
C027	403 364 5900	CERAMIC	0.22U K	16V
C028	403 364 5900	CERAMIC	0.22U K	16V
C029	403 364 5900	CERAMIC	0.22U K	16V
C109	403 235 6203	CERAMIC	0.01U Z	50V
C112	403 224 6306	CERAMIC	0.033U Z	50V
C114	403 408 6207	NP-ELECT	10U M	16V
C601	403 175 7209	ELECT	10U M	16V
C601	403 391 5508	ELECT	10U M	16V
C603	403 224 6306	CERAMIC	0.033U Z	50V
C604	403 393 0006	ELECT	470U M	25V
	403 420 1402	ELECT	470U M	25V
C605	403 224 6306	CERAMIC	0.033U Z	50V
C606	403 235 1109	CERAMIC	270P J	50V
C607	403 224 6009	CERAMIC	4700P K	50V
C608	403 224 6009	CERAMIC	4700P K	50V
C609	403 224 6009	CERAMIC	4700P K	50V
C618	403 296 9502	ELECT	100U M	16V
	403 391 5102	ELECT	100U M	16V
C619	403 387 4904	ELECT	100U M	6.3V
	403 394 1309	ELECT	100U M	6.3V
C631	403 393 0006	ELECT	470U M	25V
	403 420 1402	ELECT	470U M	25V

Schematic Location	Part No.	Description		
C632	403 393 0006	ELECT	470U M	25V
	403 420 1402	ELECT	470U M	25V
C633	403 279 0106	CERAMIC	0.1U Z	25V
C634	403 279 0106	CERAMIC	0.1U Z	25V
C641	403 397 6707	ELECT	470U M	25V
C642	403 397 6707	ELECT	470U M	25V
C644	403 309 1400	CERAMIC	1U Z	10V
	403 336 5600	CERAMIC	1.0U Z	10V
C645TM	403 233 0807	ELECT	10U M	50V
C647	403 397 6004	ELECT	1000U M	10V
C656	403 279 0106	CERAMIC	0.1U Z	25V
C657	403 387 5109	ELECT	220U M	6.3V
	403 394 9305	ELECT	220U M	6.3V
C658	403 387 4904	ELECT	100U M	6.3V
	403 394 1309	ELECT	100U M	6.3V
C659	403 279 0106	CERAMIC	0.1U Z	25V
C671	403 387 5109	ELECT	220U M	6.3V
	403 394 9305	ELECT	220U M	6.3V
C672	403 279 0106	CERAMIC	0.1U Z	25V
C673	403 387 4904	ELECT	100U M	6.3V
	403 394 1309	ELECT	100U M	6.3V
C674	403 279 0106	CERAMIC	0.1U Z	25V
C676	403 387 4904	ELECT	100U M	6.3V
	403 394 1309	ELECT	100U M	6.3V
C677	403 279 0106	CERAMIC	0.1U Z	25V
C678	403 387 4904	ELECT	100U M	6.3V
	403 394 1309	ELECT	100U M	6.3V
C679	403 279 0106	CERAMIC	0.1U Z	25V
C682	403 387 5109	ELECT	220U M	6.3V
	403 394 9305	ELECT	220U M	6.3V
C803	403 279 0106	CERAMIC	0.1U Z	25V
C804	403 279 0106	CERAMIC	0.1U Z	25V
C806	403 279 0106	CERAMIC	0.1U Z	25V
C851	403 235 0607	CERAMIC	100P J	50V
C852	403 345 6605	CERAMIC	1U Z	10V
C854	403 309 1400	CERAMIC	1U Z 10V	
	403 336 5600	CERAMIC	1.0U Z	10V
C861	403 184 8402	ELECT	4.7U M	25V
	403 391 5706	ELECT	4.7U M	25V
C876	403 309 1400	CERAMIC	1U Z 10V	
	403 336 5600	CERAMIC	1.0U Z	10V
C877	403 279 0106	CERAMIC	0.1U Z	25V
C886	403 235 6203	CERAMIC	0.01U Z	50V
C1004	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C1007	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C1014	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C1022	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C1201	403 235 6203	CERAMIC	0.01U Z	50V
C1202	403 235 6203	CERAMIC	0.01U Z	50V
C1204	403 296 9502	ELECT	100U M	16V
	403 391 5102	ELECT	100U M	16V
C1206	403 408 6207	NP-ELECT	10U M	16V

Schematic Location	Part No.	Description		
C1600	403 135 0707	CERAMIC	1U K	25V
C1601	403 135 0707	CERAMIC	1U K	25V
★ C1602	404 096 0508	MT-POLYEST	0.1U M	275V
★ C1603	404 096 0508	MT-POLYEST	0.1U M	275V
C1604	403 370 1507	CERAMIC	0.1U K	50V
C1605	403 222 1303	CERAMIC	1000P K	1K
	403 271 9602	CERAMIC	1000P K	1K
	403 262 1806	CERAMIC	1000P K	1K
C1606	403 222 1303	CERAMIC	1000P K	1K
	403 271 9602	CERAMIC	1000P K	1K
	403 262 1806	CERAMIC	1000P K	1K
C1607	403 370 1507	CERAMIC	0.1U K	50V
C1608	404 075 5005	ELECT	470U M	200V
	404 096 2700	ELECT	470U M	200V
C1609	403 155 2101	CERAMIC	1500P K	50V
C1610	403 370 1507	CERAMIC	0.1U K	50V
C1611	403 154 8302	ELECT	47U M	25V
C1612	403 157 6602	CERAMIC	470P K	50V
C1613	403 222 1303	CERAMIC	1000P K	1K
	403 271 9602	CERAMIC	1000P K	1K
	403 262 1806	CERAMIC	1000P K	1K
C1614	403 363 3006	ELECT	1000U M	35V
C1615	403 363 3006	ELECT	1000U M	35V
C1617	403 363 3006	ELECT	1000U M	35V
C1618	403 222 1907	CERAMIC	2200P K	1K
	403 263 6305	CERAMIC	2200P K	1K
	403 232 0204	CERAMIC	2200P K	1K
C1619	403 222 1303	CERAMIC	1000P K	1K
	403 271 9602	CERAMIC	1000P K	1K
	403 262 1806	CERAMIC	1000P K	1K
C1620	403 222 1303	CERAMIC	1000P K	1K
	403 271 9602	CERAMIC	1000P K	1K
	403 262 1806	CERAMIC	1000P K	1K
C1621	403 180 1605	MT-POLYEST	0.1U K	400V
C1622	403 350 5006	ELECT	1000U M	25V
C1623	403 350 5006	ELECT	1000U M	25V
C1624	403 419 9402	ELECT	680U M	25V
★ C1625	404 088 2909	CERAMIC	1000P M	250V
C1626	404 084 3405	ELECT	1000U M	25V
C1628	404 084 2408	ELECT	470U M	6.3V
★ C1629	404 088 2909	CERAMIC	1000P M	250V
★ C1630	404 088 2909	CERAMIC	1000P M	250V
C1632	403 233 0807	ELECT	10U M	50V
C1831	403 279 0106	CERAMIC	0.1U Z	25V
C1832	403 387 5307	ELECT	47U M	6.3V
	403 392 1202	ELECT	47U M	6.3V
C1899	403 279 0106	CERAMIC	0.1U Z	25V
C1962	403 393 2109	CERAMIC	4.7U K	6.3V
C1963	403 393 2109	CERAMIC	4.7U K	6.3V
C2001	403 279 0106	CERAMIC	0.1U Z	25V
C2002	403 235 6203	CERAMIC	0.01U Z	50V
C2003	403 279 0106	CERAMIC	0.1U Z	25V
C2004	403 387 5307	ELECT	47U M	6.3V
C2004	403 392 1202	ELECT	47U M	6.3V
C2006	403 279 0106	CERAMIC	0.1U Z	25V
C2007	403 224 5804	CERAMIC	2200P K	50V

Schematic Location	Part No.	Description		
C2008	403 387 5307	ELECT	47U M	6.3V
	403 392 1202	ELECT	47U M	6.3V
C2009	403 235 6203	CERAMIC	0.01U Z	50V
C2011	403 279 0106	CERAMIC	0.1U Z	25V
C2012	403 224 5507	CERAMIC	22P J	50V
C2013	403 234 9809	CERAMIC	18P J	50V
C2014	403 224 5705	CERAMIC	1000P K	50V
C2016	403 235 6203	CERAMIC	0.01U Z	50V
C2017	403 235 6203	CERAMIC	0.01U Z	50V
C2018	403 279 0106	CERAMIC	0.1U Z	25V
C2019	403 387 5109	ELECT	220U M	6.3V
	403 394 9305	ELECT	220U M	6.3V
C2021	403 279 0106	CERAMIC	0.1U Z	25V
C2022	403 235 6203	CERAMIC	0.01U Z	50V
C2023	403 235 6203	CERAMIC	0.01U Z	50V
C2024	403 235 6203	CERAMIC	0.01U Z	50V
C2026	403 279 0106	CERAMIC	0.1U Z	25V
C2027	403 387 5109	ELECT	220U M	6.3V
C2027	403 394 9305	ELECT	220U M	6.3V
C2028	403 279 0106	CERAMIC	0.1U Z	25V
C2029	403 235 6203	CERAMIC	0.01U Z	50V
C2031	403 235 6203	CERAMIC	0.01U Z	50V
C2032	403 235 6203	CERAMIC	0.01U Z	50V
C2033	403 235 6203	CERAMIC	0.01U Z	50V
C2034	403 235 6203	CERAMIC	0.01U Z	50V
C2036	403 235 6203	CERAMIC	0.01U Z	50V
C2037	403 235 0409	CERAMIC	68P J	50V
C2038	403 387 4904	ELECT	100U M	6.3V
	403 394 1309	ELECT	100U M	6.3V
C2039	403 279 0106	CERAMIC	0.1U Z	25V
C2041	403 235 6203	CERAMIC	0.01U Z	50V
C2042	403 235 6203	CERAMIC	0.01U Z	50V
C2043	403 235 6203	CERAMIC	0.01U Z	50V
C2044	403 279 0106	CERAMIC	0.1U Z	25V
C2046	403 387 4904	ELECT	100U M	6.3V
	403 394 1309	ELECT	100U M	6.3V
C2047	403 235 6203	CERAMIC	0.01U Z	50V
C2048	403 235 6203	CERAMIC	0.01U Z	50V
C2049	403 235 6203	CERAMIC	0.01U Z	50V
C2051	403 387 4904	ELECT	100U M	6.3V
	403 394 1309	ELECT	100U M	6.3V
C2052	403 279 0106	CERAMIC	0.1U Z	25V
C2053	403 235 6203	CERAMIC	0.01U Z	50V
C2054	403 387 4904	ELECT	100U M	6.3V
	403 394 1309	ELECT	100U M	6.3V
C2056	403 279 0106	CERAMIC	0.1U Z	25V
C2057	403 279 0106	CERAMIC	0.1U Z	25V
C2058	403 279 0106	CERAMIC	0.1U Z	25V
C2061	403 235 0607	CERAMIC	100P J	50V
C2098	403 279 0106	CERAMIC	0.1U Z	25V
C2099	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C2101	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C2102	403 234 9700	CERAMIC	12P J	50V
C2103	403 234 9601	CERAMIC	15P J	50V

Schematic Location	Part No.	Description		
C2104	403 234 9908	CERAMIC	27P J	50V
C2106	403 364 7508	CERAMIC	10P J	50V
C2107	403 235 0409	CERAMIC	68P J	50V
C2108	403 396 6302	CERAMIC	0.47U Z	16V
C2121	403 345 9606	CERAMIC	0.47U K	10V
C2122	403 234 9700	CERAMIC	12P J	50V
C2123	403 234 9601	CERAMIC	15P J	50V
C2124	403 234 9908	CERAMIC	27P J	50V
C2126	403 364 7508	CERAMIC	10P J	50V
C2128	403 279 0106	CERAMIC	0.1U Z	25V
C2141	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C2142	403 364 7508	CERAMIC	10P J	50V
C2143	403 364 7508	CERAMIC	10P J	50V
C2144	403 234 9601	CERAMIC	15P J	50V
C2146	403 364 7508	CERAMIC	10P J	50V
C2148	403 396 6302	CERAMIC	0.47U Z	16V
C2161	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C2162	403 364 7508	CERAMIC	10P J	50V
C2163	403 364 7508	CERAMIC	10P J	50V
C2164	403 234 9601	CERAMIC	15P J	50V
C2166	403 364 7508	CERAMIC	10P J	50V
C2168	403 396 6302	CERAMIC	0.47U Z	16V
C2181	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C2182	403 364 7508	CERAMIC	10P J	50V
C2183	403 364 7508	CERAMIC	10P J	50V
C2184	403 234 9601	CERAMIC	15P J	50V
C2186	403 364 7508	CERAMIC	10P J	50V
C2188	403 396 6302	CERAMIC	0.47U Z	16V
C3001	403 345 6605	CERAMIC	1U Z	10V
C3002	403 345 6605	CERAMIC	1U Z	10V
C3003	403 345 6605	CERAMIC	1U Z	10V
C3004	403 345 6605	CERAMIC	1U Z	10V
C3006	403 224 6207	CERAMIC	0.022U Z	50V
C3007	403 224 5804	CERAMIC	2200P K	50V
C3008	403 279 0106	CERAMIC	0.1U Z	25V
C3009	403 345 6605	CERAMIC	1U Z	10V
C3011	403 309 1400	CERAMIC	1U Z 10V	
	403 336 5600	CERAMIC	1.0U Z	10V
C3012	403 309 1400	CERAMIC	1U Z 10V	
	403 336 5600	CERAMIC	1.0U Z	10V
C3013	403 309 1400	CERAMIC	1U Z 10V	
	403 336 5600	CERAMIC	1.0U Z	10V
C3014	403 309 1400	CERAMIC	1U Z 10V	
	403 336 5600	CERAMIC	1.0U Z	10V
C3016	403 309 1400	CERAMIC	1U Z 10V	
	403 336 5600	CERAMIC	1.0U Z	10V
C3018	403 319 4804	CERAMIC	0.22U Z	16V
C3019	403 345 6605	CERAMIC	1U Z	10V
C3021	403 279 0106	CERAMIC	0.1U Z	25V
C3022	403 224 5804	CERAMIC	2200P K	50V
C3023	403 309 1400	CERAMIC	1U Z 10V	
	403 336 5600	CERAMIC	1.0U Z	10V
C3024	403 345 6605	CERAMIC	1U Z	10V

Schematic Location	Part No.	Description		
C3026	403 345 6605	CERAMIC	1U Z	10V
C3027	403 345 6605	CERAMIC	1U Z	10V
C3028	403 345 6605	CERAMIC	1U Z	10V
C3029	403 397 5809	ELECT	1000U M	10V
C3083	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C3084	403 175 7209	ELECT	10U M	16V
	403 391 5508	ELECT	10U M	16V
C6234	403 234 8901	CERAMIC	4P C	50V
C7201	403 279 0106	CERAMIC	0.1U Z	25V
C7202	403 279 0106	CERAMIC	0.1U Z	25V
C7203	403 279 0106	CERAMIC	0.1U Z	25V
C7206	403 279 0106	CERAMIC	0.1U Z	25V
C7207	403 279 0106	CERAMIC	0.1U Z	25V
C7208	403 279 0106	CERAMIC	0.1U Z	25V
C7209	403 279 0106	CERAMIC	0.1U Z	25V
C7211	403 279 0106	CERAMIC	0.1U Z	25V
C7212	403 279 0106	CERAMIC	0.1U Z	25V
C7213	403 279 0106	CERAMIC	0.1U Z	25V
C7214	403 279 0106	CERAMIC	0.1U Z	25V
C7216	403 279 0106	CERAMIC	0.1U Z	25V
C7217	403 279 0106	CERAMIC	0.1U Z	25V
C7218	403 279 0106	CERAMIC	0.1U Z	25V
C7219	403 279 0106	CERAMIC	0.1U Z	25V
C7221	403 279 0106	CERAMIC	0.1U Z	25V
C7232	403 279 0106	CERAMIC	0.1U Z	25V
C7234	403 279 0106	CERAMIC	0.1U Z	25V
C7265	403 393 2109	CERAMIC	4.7U K	6.3V
C7266	403 393 2109	CERAMIC	4.7U K	6.3V
C7269	403 393 2109	CERAMIC	4.7U K	6.3V
C7271	403 393 2109	CERAMIC	4.7U K	6.3V
C7272	403 393 2109	CERAMIC	4.7U K	6.3V
C7273	403 393 2109	CERAMIC	4.7U K	6.3V
C7289	403 235 0607	CERAMIC	100P J	50V
C7298	403 279 0106	CERAMIC	0.1U Z	25V
C7299	403 279 0106	CERAMIC	0.1U Z	25V
C7552	403 279 0106	CERAMIC	0.1U Z	25V
C7554	403 279 0106	CERAMIC	0.1U Z	25V
C7557	403 279 0106	CERAMIC	0.1U Z	25V
C7558	403 393 2109	CERAMIC	4.7U K	6.3V
C7559	403 393 2109	CERAMIC	4.7U K	6.3V
C8061	403 392 1202	ELECT	47U M	6.3V
	403 387 5307	ELECT	47U M	6.3V

DIODES

D612	407 149 0807	DIODE 1SS355 TE-17
D613	407 149 0807	DIODE 1SS355 TE-17
D614	407 228 4900	ZD UDZS33B-TE-17
D615	407 149 0807	DIODE 1SS355 TE-17
D617	407 149 0807	DIODE 1SS355 TE-17
D632	407 149 0807	DIODE 1SS355 TE-17
D641	407 213 8520	DIODE SPB-G56SVR
D642	407 149 0807	DIODE 1SS355 TE-17
D876	407 222 6306	ZD UDZS-TE-173.9B
	407 187 7608	ZENER DIODE UDZ3.9B TE-17

Schematic Location	Part No.	Description
D1600	407 007 7702	DIODE EU2A
D1601	407 007 7702	DIODE EU2A
★ D1602	407 231 2801	PHOTO COUPLE PC123YC2
★ D1603	407 231 2801	PHOTO COUPLE PC123YC2
D1604	407 207 4709	DIODE D5SBA60
	407 199 1908	DIODE RBV-606 LF-B
D1605	407 149 0807	DIODE 1SS355 TE-17
D1606	407 190 4106	DIODE SFPL-52V
★ D1607	407 231 2801	PHOTO COUPLE PC123YC2
D1608	407 190 4106	DIODE SFPL-52V
D1609	407 190 4106	DIODE SFPL-52V
D1610	407 244 6407	DIODE RF2001T2D
	407 190 2805	DIODE YG906C2R
D1611	407 206 9824	DIODE SFPB-52V
D1612	407 007 7702	DIODE EU2A
D1613	407 075 5501	DIODE FML-12S
	407 244 0702	DIODE RF601T2D
	407 154 0502	DIODE YG901C2
D1623	404 047 7400	ZENER DIODE MTZJ5.6B
D1851	407 149 0807	DIODE 1SS355 TE-17
D1852	407 149 0807	DIODE 1SS355 TE-17
D3001	407 210 5403	DIODE RB551V-30 TE-17

INTEGRATED CIRCUITS

IC001	409 569 1907	IC LA42052-E
IC612	409 437 4702	IC L88M05TL-TL
IC631	409 497 6302	IC BA09FP-E2
IC641	409 550 1404	IC PQ1CY1032ZP
IC656	409 592 8508	IC BA15BC0FP
IC671	409 482 7505	IC BA25BC0FP
IC676	409 588 6303	IC BA33BC0FP
IC801	410 555 2105	IC TMP88PS38BFGN2TES
IC841	409 404 7200	IC TC7SET00FU
IC886	410 513 2901	IC CAT24WC16WI-TE13
IC1201	409 450 3102	IC NJM2535M
IC1202	409 304 6422	IC NJM2246M-TE2
IC1600	409 067 7203	IC L5431
	409 054 1207	IC TL431CLP-B
	409 180 2307	IC UPC1093J
IC1601	410 554 7200	IC STR-G9628 LF1129
IC1831	410 507 1903	IC TC74VHCT04AFT
IC1899	409 404 6322	IC M62320FP
IC2001	409 611 0209	IC TC90101FG
IC3001	409 564 4309	IC NJW1142M
IC7201	410 553 9007	IC EP1C6T144C7N
IC7232	409 439 8906	IC TC7WH125FU
IC7233	409 439 8906	IC TC7WH125FU
IC7299	409 648 3907	IC EPCS1SI8NAW

Schematic Location	Part No.	Description
	COILS	
★ LF1600	645 019 3873	LINE FILTER
L601	645 075 0564	INDUCTOR, 33U M
L606	645 073 9156	INDUCTOR, 1000U M
L607	645 075 7419	INDUCTOR, 390U J
L609	645 059 2782	INDUCTOR, 47U M
L612	645 040 6430	INDUCTOR, 2.2U M
L641	645 075 0564	INDUCTOR, 33U M
L1201	645 040 6430	INDUCTOR, 2.2U M
L1600	645 047 6556	INDUCTOR, 4.7U M
L1603	610 078 5946	PIPE CORE
L1604	610 078 5946	PIPE CORE
L1605	610 078 5946	PIPE CORE
L1606	610 078 5946	PIPE CORE
L1607	645 047 6556	INDUCTOR, 4.7U M
L1831	645 040 6430	INDUCTOR, 2.2U M
L2001	645 040 6430	INDUCTOR, 2.2U M
L2002	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
L2003	645 040 6430	INDUCTOR, 2.2U M
L2004	645 059 1716	INDUCTOR, 1.5U J
L2006	645 040 6430	INDUCTOR, 2.2U M
L2007	645 040 6430	INDUCTOR, 2.2U M
L2008	645 040 6430	INDUCTOR, 2.2U M
L2009	645 040 6430	INDUCTOR, 2.2U M
L2011	645 040 6430	INDUCTOR, 2.2U M
L2012	645 040 6430	INDUCTOR, 2.2U M
L2013	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
L2099	645 040 6430	INDUCTOR, 2.2U M
L2101	645 059 1730	INDUCTOR, 15U J
L2102	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
L2121	645 059 1730	INDUCTOR, 15U J
L2122	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
L2141	645 072 1397	INDUCTOR, 8.2U J
L2142	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
L2161	645 072 1397	INDUCTOR, 8.2U J
L2162	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
L2181	645 072 1397	INDUCTOR, 8.2U J
L2182	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
L7261	645 036 3894	INDUCTOR, 220 OHM
L7262	645 036 3894	INDUCTOR, 220 OHM
L7263	645 036 3894	INDUCTOR, 220 OHM
L7264	645 036 3894	INDUCTOR, 220 OHM
L7267	645 036 3894	INDUCTOR, 220 OHM
L7268	645 036 3894	INDUCTOR, 220 OHM
L7597	645 073 6407	IMPEDANCE, 100 OHM -
L7598	645 073 6407	IMPEDANCE, 100 OHM -
L7599	645 073 6407	IMPEDANCE, 100 OHM -

Schematic Location	Part No.	Description
	TRANSISTORS	
Q002	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q101	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q613	405 211 0007	TR 2SC5730-Q
	405 210 9902	TR 2SC5730-R
Q656	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q657	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q671	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q672	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q676	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB

Schematic Location	Part No.	Description
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q677	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q851	405 134 5925	TR 2SA1037AK T146 R
	405 147 2205	TR 2SA1037AK T146 S
	405 002 0308	TR 2SA1037K-T-96-R
	405 002 0407	TR 2SA1037K-T-96-S
	405 002 6726	TR 2SA1179-M6
	405 002 6924	TR 2SA1179-M7-TB
	405 163 1503	TR 2SA1179N-M6-TB
	405 163 2708	TR 2SA1179N-M7-TB
	405 173 9605	TR 2SA1235A1E
	405 173 9704	TR 2SA1235A1F
Q876	405 134 5925	TR 2SA1037AK T146 R
	405 147 2205	TR 2SA1037AK T146 S
	405 002 0308	TR 2SA1037K-T-96-R
	405 002 0407	TR 2SA1037K-T-96-S
	405 002 6726	TR 2SA1179-M6
	405 002 6924	TR 2SA1179-M7-TB
	405 163 1503	TR 2SA1179N-M6-TB
	405 163 2708	TR 2SA1179N-M7-TB
	405 173 9605	TR 2SA1235A1E
	405 173 9704	TR 2SA1235A1F
Q1600	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q1601	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q1605	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S

Schematic Location	Part No.	Description
Q1606	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q1607	405 018 0507	TR 2SC3332-R
	405 018 0606	TR 2SC3332-S
Q1608	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q1609	405 202 7701	TR TPC8109
Q1610	405 202 7701	TR TPC8109
Q1611	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q1612	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q1851	405 045 8725	TR 2SK536
Q1852	405 045 8725	TR 2SK536
Q2001	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q2031	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S

Schematic Location	Part No.	Description
Q2092	405 134 5925	TR 2SA1037AK T146 R
	405 147 2205	TR 2SA1037AK T146 S
	405 002 0308	TR 2SA1037K-T-96-R
	405 002 0407	TR 2SA1037K-T-96-S
	405 002 6726	TR 2SA1179-M6
	405 002 6924	TR 2SA1179-M7-TB
	405 163 1503	TR 2SA1179N-M6-TB
	405 163 2708	TR 2SA1179N-M7-TB
	405 173 9605	TR 2SA1235A1E
	405 173 9704	TR 2SA1235A1F
Q2101	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q2102	405 134 5925	TR 2SA1037AK T146 R
	405 147 2205	TR 2SA1037AK T146 S
	405 002 0308	TR 2SA1037K-T-96-R
	405 002 0407	TR 2SA1037K-T-96-S
	405 002 6726	TR 2SA1179-M6
	405 002 6924	TR 2SA1179-M7-TB
	405 163 1503	TR 2SA1179N-M6-TB
	405 163 2708	TR 2SA1179N-M7-TB
	405 173 9605	TR 2SA1235A1E
	405 173 9704	TR 2SA1235A1F
Q2121	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q2122	405 134 5925	TR 2SA1037AK T146 R
	405 147 2205	TR 2SA1037AK T146 S
	405 002 0308	TR 2SA1037K-T-96-R
	405 002 0407	TR 2SA1037K-T-96-S
	405 002 6726	TR 2SA1179-M6
	405 002 6924	TR 2SA1179-M7-TB
	405 163 1503	TR 2SA1179N-M6-TB
	405 163 2708	TR 2SA1179N-M7-TB
	405 173 9605	TR 2SA1235A1E
	405 173 9704	TR 2SA1235A1F
Q2141	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S

Schematic Location	Part No.	Description
Q2142	405 134 5925	TR 2SA1037AK T146 R
	405 147 2205	TR 2SA1037AK T146 S
	405 002 0308	TR 2SA1037K-T-96-R
	405 002 0407	TR 2SA1037K-T-96-S
	405 002 6726	TR 2SA1179-M6
	405 002 6924	TR 2SA1179-M7-TB
	405 163 1503	TR 2SA1179N-M6-TB
	405 163 2708	TR 2SA1179N-M7-TB
	405 173 9605	TR 2SA1235A1E
	405 173 9704	TR 2SA1235A1F
Q2161	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q2172	405 134 5925	TR 2SA1037AK T146 R
	405 147 2205	TR 2SA1037AK T146 S
	405 002 0308	TR 2SA1037K-T-96-R
	405 002 0407	TR 2SA1037K-T-96-S
	405 002 6726	TR 2SA1179-M6
	405 002 6924	TR 2SA1179-M7-TB
	405 163 1503	TR 2SA1179N-M6-TB
	405 163 2708	TR 2SA1179N-M7-TB
	405 173 9605	TR 2SA1235A1E
	405 173 9704	TR 2SA1235A1F
Q2181	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q3011	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q3012	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q3031	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB

Schematic Location	Part No.	Description
Q3031(Cont)	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q3032	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q7289	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S
Q8061	405 014 4509	TR 2SC2412K-T-96-R
	405 014 4608	TR 2SC2412K-T-96-S
	405 015 8724	TR 2SC2812-L6-TB
	405 015 8922	TR 2SC2812-L7-TB
	405 163 1602	TR 2SC2812N-L6-TB
	405 163 1701	TR 2SC2812N-L7-TB
	405 173 9803	TR 2SC3928A1R
	405 173 9902	TR 2SC3928A1S

NOTES:
Read description of the Resistor as follows:

(Example)

CARBON 4.7K J A 1/4W

- 1/4W — Rated Wattage
- A — Performance Symbols:
  A...General B...Non-flammable
  Z...Low noise
  Other... Temperature coefficient
- J — Tolerance Symbols:
  A...0.05% B...0.1% C...25%
  D...0.5% F...1% G...2%
  J...5% K...10% M...20%
  P...+5 -15%
- 4.7K — Rated Value, ohms:
  K...1,000 M...1,000,000
- CARBON — Material:
  CARBON ..... Carbon
  MT-FILM .....Metal Film
  OXIDE-MT .....Oxide Metal Film
  SOLID .....Composition
  MT-GLAZE .....Metal Glaze
  WIRE WOUND .....Wire Wound
  CERAMIC RES .... Ceramic
  FUSIBLE RES ..... Fusible

Schematic Location	Part No.	Description
RB2001	645 037 0663	R-NETWORK 22X4 0.063W
	645 021 4943	R-NETWORK 22X4 1/16W
RB2002	645 037 0663	R-NETWORK 22X4 0.063W
	645 021 4943	R-NETWORK 22X4 1/16W
RB2003	645 037 0663	R-NETWORK 22X4 0.063W
	645 021 4943	R-NETWORK 22X4 1/16W
RB2004	645 037 0663	R-NETWORK 22X4 0.063W
	645 021 4943	R-NETWORK 22X4 1/16W
RB7201	645 037 0663	R-NETWORK 22X4 0.063W
	645 021 4943	R-NETWORK 22X4 1/16W
RB7202	645 037 0663	R-NETWORK 22X4 0.063W
	645 021 4943	R-NETWORK 22X4 1/16W
RB7203	645 037 0663	R-NETWORK 22X4 0.063W
	645 021 4943	R-NETWORK 22X4 1/16W
RB7204	645 037 0663	R-NETWORK 22X4 0.063W
	645 021 4943	R-NETWORK 22X4 1/16W
R001	401 256 7605	MT-GLAZE 3.9K JA 1/10W
R002	401 152 3206	MT-GLAZE 330 JA 1/10W
R004	401 256 6301	MT-GLAZE 47K JA 1/10W
R021	401 150 6209	MT-GLAZE 1K JA 1/10W
R022	401 256 7605	MT-GLAZE 3.9K JA 1/10W
R023	401 150 6209	MT-GLAZE 1K JA 1/10W
R024	401 256 7605	MT-GLAZE 3.9K JA 1/10W
R026	401 184 2000	MT-GLAZE 2.2 JA 1/2W
R027	401 184 2000	MT-GLAZE 2.2 JA 1/2W
R028	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R029	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R101	401 255 6500	MT-GLAZE 100 JA 1/10W
R102	401 255 6500	MT-GLAZE 100 JA 1/10W
R103	401 255 6500	MT-GLAZE 100 JA 1/10W
R104	401 255 6500	MT-GLAZE 100 JA 1/10W
R111	401 162 3609	MT-GLAZE 470 JA 1/10W
R112	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R113	401 256 4109	MT-GLAZE 56 JA 1/10W
R121	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R123	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R127	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R129	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R131	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R133	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R137	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R139	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R606	401 256 5601	MT-GLAZE 47 JA 1/10W
R607	401 255 8702	MT-GLAZE 22 JA 1/10W
R608	401 256 1702	MT-GLAZE 33K JA 1/10W
R620	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R622	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R626	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R647	401 264 2807	MT-GLAZE 1.2K FA 1/10W
R648	401 264 1800	MT-GLAZE 1K FA 1/10W
R649	401 264 7505	MT-GLAZE 2.7K FA 1/10W
R651	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R656	401 162 3005	MT-GLAZE 22K JA 1/10W
R657	401 162 3005	MT-GLAZE 22K JA 1/10W
R671	401 162 3005	MT-GLAZE 22K JA 1/10W
R672	401 162 3005	MT-GLAZE 22K JA 1/10W

Schematic Location	Part No.	Description	
R677	401 162 3005	MT-GLAZE	22K JA 1/10W
R678	401 162 3005	MT-GLAZE	22K JA 1/10W
R691	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R692	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R693	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R694	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R696	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R697	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R698	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R699	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R801	401 255 6500	MT-GLAZE	100 JA 1/10W
R802	401 255 6500	MT-GLAZE	100 JA 1/10W
R803	401 255 6500	MT-GLAZE	100 JA 1/10W
R804	401 255 6500	MT-GLAZE	100 JA 1/10W
R805	401 255 6500	MT-GLAZE	100 JA 1/10W
R806	401 255 6500	MT-GLAZE	100 JA 1/10W
R807	401 255 6500	MT-GLAZE	100 JA 1/10W
R808	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R809	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R810	401 255 6500	MT-GLAZE	100 JA 1/10W
R811	401 255 6500	MT-GLAZE	100 JA 1/10W
R812	401 255 6500	MT-GLAZE	100 JA 1/10W
R813	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R814	401 255 6500	MT-GLAZE	100 JA 1/10W
R815	401 255 6500	MT-GLAZE	100 JA 1/10W
R816	401 255 6500	MT-GLAZE	100 JA 1/10W
R818	401 162 2909	MT-GLAZE	220 JA 1/10W
R819	401 162 2909	MT-GLAZE	220 JA 1/10W
R820	401 162 2909	MT-GLAZE	220 JA 1/10W
R821	401 255 6500	MT-GLAZE	100 JA 1/10W
R822	401 255 6500	MT-GLAZE	100 JA 1/10W
R823	401 255 6500	MT-GLAZE	100 JA 1/10W
R824	401 255 6500	MT-GLAZE	100 JA 1/10W
R826	401 255 6500	MT-GLAZE	100 JA 1/10W
R829	401 255 6500	MT-GLAZE	100 JA 1/10W
R830	401 162 3005	MT-GLAZE	22K JA 1/10W
R831	401 255 6500	MT-GLAZE	100 JA 1/10W
R832	401 256 7308	MT-GLAZE	6.8K JA 1/10W
R833	401 255 6500	MT-GLAZE	100 JA 1/10W
R834	401 255 6500	MT-GLAZE	100 JA 1/10W
R835	401 150 5905	MT-GLAZE	10K JA 1/10W
R836	401 255 6500	MT-GLAZE	100 JA 1/10W
R837	401 255 6500	MT-GLAZE	100 JA 1/10W
R838	401 150 6209	MT-GLAZE	1K JA 1/10W
R839	401 255 6500	MT-GLAZE	100 JA 1/10W
R841	401 255 6500	MT-GLAZE	100 JA 1/10W
R842	401 255 6500	MT-GLAZE	100 JA 1/10W
R843	401 255 6500	MT-GLAZE	100 JA 1/10W
R844	401 255 6500	MT-GLAZE	100 JA 1/10W
R845	401 150 5905	MT-GLAZE	10K JA 1/10W
R846	401 150 5905	MT-GLAZE	10K JA 1/10W
R847	401 150 5905	MT-GLAZE	10K JA 1/10W
R848	401 150 5905	MT-GLAZE	10K JA 1/10W
R851	401 162 3104	MT-GLAZE	3.3K JA 1/10W
R853	401 162 3104	MT-GLAZE	3.3K JA 1/10W
R854	401 256 3607	MT-GLAZE	15K JA 1/10W
R856	401 256 3607	MT-GLAZE	15K JA 1/10W
R862	401 256 7605	MT-GLAZE	3.9K JA 1/10W
R863	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R876	401 162 3609	MT-GLAZE	470 JA 1/10W
R877	401 162 3005	MT-GLAZE	22K JA 1/10W
R878	401 150 5905	MT-GLAZE	10K JA 1/10W
R886	401 162 3708	MT-GLAZE	4.7K JA 1/10W
R887	401 162 3708	MT-GLAZE	4.7K JA 1/10W
R888	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R889	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R894	401 162 3708	MT-GLAZE	4.7K JA 1/10W
R1001	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1002	401 256 2709	MT-GLAZE	75 JA 1/10W
R1003	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1004	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1006	401 256 2709	MT-GLAZE	75 JA 1/10W
R1007	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1008	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1009	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1011	401 256 2709	MT-GLAZE	75 JA 1/10W
R1012	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1013	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1014	401 150 5806	MT-GLAZE	100K JA 1/10W
R1016	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1017	401 150 5806	MT-GLAZE	100K JA 1/10W
R1018	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1019	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1021	401 256 2709	MT-GLAZE	75 JA 1/10W
R1022	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1023	401 150 5806	MT-GLAZE	100K JA 1/10W
R1024	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1026	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1027	401 150 5806	MT-GLAZE	100K JA 1/10W
R1028	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1029	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1031	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1032	401 256 2709	MT-GLAZE	75 JA 1/10W
R1033	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1034	401 256 2709	MT-GLAZE	75 JA 1/10W
R1036	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1037	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1038	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1039	401 256 2709	MT-GLAZE	75 JA 1/10W
R1041	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1042	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1043	401 150 5806	MT-GLAZE	100K JA 1/10W
R1044	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1046	401 150 6001	MT-GLAZE	0.000 ZA 1/10W
R1047	401 150 5806	MT-GLAZE	100K JA 1/10W
R1201	401 255 6005	MT-GLAZE	1M JA 1/10W
R1202	401 255 6005	MT-GLAZE	1M JA 1/10W
R1203	401 255 6005	MT-GLAZE	1M JA 1/10W
R1204	401 255 6005	MT-GLAZE	1M JA 1/10W
R1206	401 255 6005	MT-GLAZE	1M JA 1/10W
R1207	401 255 6005	MT-GLAZE	1M JA 1/10W
R1208	401 150 6001	MT-GLAZE	0.000 ZA 1/10W

Schematic Location	Part No.	Description
R1209	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1211	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1212	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1213	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1214	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1216	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1217	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1218	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1219	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1221	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1601	401 150 5905	MT-GLAZE 10K JA 1/10W
R1602	401 256 6301	MT-GLAZE 47K JA 1/10W
R1603	401 150 5905	MT-GLAZE 10K JA 1/10W
R1604	401 256 6301	MT-GLAZE 47K JA 1/10W
R1605	401 007 5805	CARBON 120K JA 1/2W
R1606	401 007 5805	CARBON 120K JA 1/2W
R1607	401 007 5805	CARBON 120K JA 1/2W
R1608	401 020 2904	CARBON 47K JA 1/4W
R1609	408 037 5508	THERMISTER NTH11D5R0LC
R1610	401 021 4105	CARBON 56K JA 1/4W
R1611	401 010 3805	CARBON 4.7K JA 1/2W
R1612	401 264 9301	MT-GLAZE 3.3K FA 1/10W
R1613	401 265 5609	MT-GLAZE 820 FA 1/10W
R1614	401 264 1800	MT-GLAZE 1K FA 1/10W
R1615	401 162 3104	MT-GLAZE 3.3K JA 1/10W
R1616	401 150 5905	MT-GLAZE 10K JA 1/10W
R1617	401 011 2302	CARBON 6.8K JA 1/2W
R1619	401 162 2800	MT-GLAZE 1.8K JA 1/10W
★ R1620	402 001 8106	FUSIBLE 680 J- 1/4W
R1621	401 011 1107	CARBON 68 JA 1/2W
R1622	401 006 9309	CARBON 10 JA 1/2W
R1623	401 064 1406	OXIDE-MT 0.33 JA 2W
R1624	401 064 1406	OXIDE-MT 0.33 JA 2W
R1626	401 068 5509	OXIDE-MT 47K JA 2W
★ R1628	402 000 1603	SOLID 3.3M MA 1/2W
	402 088 1502	RESISTER 3.3M JA 1/2W
	402 090 2108	RESISTER 3.3M JA 1/2W
R1629	401 066 6102	OXIDE-MT 220 JA 2W
R1635	401 150 6209	MT-GLAZE 1K JA 1/10W
R1637	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1638	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1640	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1641	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1642	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1643	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1644	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1645	401 150 5905	MT-GLAZE 10K JA 1/10W
R1647	401 150 5905	MT-GLAZE 10K JA 1/10W
R1649	401 150 5905	MT-GLAZE 10K JA 1/10W
R1651	401 150 5905	MT-GLAZE 10K JA 1/10W
R1654	401 162 3005	MT-GLAZE 22K JA 1/10W
R1655	401 058 9005	OXIDE-MT 1.2K JA 1W
R1656	401 058 9005	OXIDE-MT 1.2K JA 1W
R1661	401 150 5905	MT-GLAZE 10K JA 1/10W
R1662	401 150 5905	MT-GLAZE 10K JA 1/10W
R1664	401 020 2003	CARBON 4.7K JA 1/4W

Schematic Location	Part No.	Description
R1665	401 256 6301	MT-GLAZE 47K JA 1/10W
R1666	401 162 3005	MT-GLAZE 22K JA 1/10W
R1667	401 162 3005	MT-GLAZE 22K JA 1/10W
R1670	401 238 1003	MT-GLAZE 120K JA 1/2W
R1671	401 238 1003	MT-GLAZE 120K JA 1/2W
R1831	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1832	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1834	401 162 2206	MT-GLAZE 10 JA 1/10W
R1835	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1838	401 150 6209	MT-GLAZE 1K JA 1/10W
R1850	401 162 3708	MT-GLAZE 4.7K JA 1/10W
R1851	401 162 3708	MT-GLAZE 4.7K JA 1/10W
R1852	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1853	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1854	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1855	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1856	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1857	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1858	401 162 2800	MT-GLAZE 1.8K JA 1/10W
R1859	401 162 2800	MT-GLAZE 1.8K JA 1/10W
R1881	401 150 5905	MT-GLAZE 10K JA 1/10W
R1882	401 150 5905	MT-GLAZE 10K JA 1/10W
R1883	401 150 5905	MT-GLAZE 10K JA 1/10W
R1884	401 150 5905	MT-GLAZE 10K JA 1/10W
R1886	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1887	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1888	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1889	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1891	401 255 6500	MT-GLAZE 100 JA 1/10W
R1892	401 255 6500	MT-GLAZE 100 JA 1/10W
R1896	401 162 3005	MT-GLAZE 22K JA 1/10W
R1898	401 162 3005	MT-GLAZE 22K JA 1/10W
R1901	401 150 6209	MT-GLAZE 1K JA 1/10W
R1902	401 256 0408	MT-GLAZE 12K JA 1/10W
R1903	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1904	401 150 6209	MT-GLAZE 1K JA 1/10W
R1906	401 256 5908	MT-GLAZE 2.7K JA 1/10W
R1907	401 162 3104	MT-GLAZE 3.3K JA 1/10W
R1908	401 256 5304	MT-GLAZE 56K JA 1/10W
R1961	401 255 6500	MT-GLAZE 100 JA 1/10W
R1962	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R1964	401 255 6500	MT-GLAZE 100 JA 1/10W
R2001	401 256 5809	MT-GLAZE 270K JA 1/10W
R2002	401 255 6500	MT-GLAZE 100 JA 1/10W
R2004	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2006	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2009	401 256 5601	MT-GLAZE 47 JA 1/10W
R2016	401 256 3805	MT-GLAZE 1.5K JA 1/10W
R2017	401 162 2404	MT-GLAZE 1.2K JA 1/10W
R2021	401 255 8702	MT-GLAZE 22 JA 1/10W
R2022	401 255 8702	MT-GLAZE 22 JA 1/10W
R2023	401 255 8702	MT-GLAZE 22 JA 1/10W
R2024	401 255 8702	MT-GLAZE 22 JA 1/10W
R2031	401 150 5905	MT-GLAZE 10K JA 1/10W
R2032	401 150 5905	MT-GLAZE 10K JA 1/10W
R2033	401 150 5905	MT-GLAZE 10K JA 1/10W

Schematic Location	Part No.	Description
R2101	401 256 6004	MT-GLAZE 27K JA 1/10W
R2102	401 150 5905	MT-GLAZE 10K JA 1/10W
R2103	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2106	401 150 6209	MT-GLAZE 1K JA 1/10W
R2107	401 256 6905	MT-GLAZE 680 JA 1/10W
R2108	401 150 6100	MT-GLAZE 2.2K JA 1/10W
R2109	401 256 3805	MT-GLAZE 1.5K JA 1/10W
R2113	401 256 3805	MT-GLAZE 1.5K JA 1/10W
R2114	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2121	401 256 6004	MT-GLAZE 27K JA 1/10W
R2122	401 150 5905	MT-GLAZE 10K JA 1/10W
R2123	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2126	401 150 6209	MT-GLAZE 1K JA 1/10W
R2127	401 256 6905	MT-GLAZE 680 JA 1/10W
R2128	401 150 6100	MT-GLAZE 2.2K JA 1/10W
R2133	401 256 3805	MT-GLAZE 1.5K JA 1/10W
R2134	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2141	401 256 6004	MT-GLAZE 27K JA 1/10W
R2142	401 150 5905	MT-GLAZE 10K JA 1/10W
R2143	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2146	401 150 6209	MT-GLAZE 1K JA 1/10W
R2147	401 162 4002	MT-GLAZE 560 JA 1/10W
R2148	401 150 6100	MT-GLAZE 2.2K JA 1/10W
R2149	401 256 3805	MT-GLAZE 1.5K JA 1/10W
R2153	401 256 3805	MT-GLAZE 1.5K JA 1/10W
R2154	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2161	401 256 6004	MT-GLAZE 27K JA 1/10W
R2162	401 150 5905	MT-GLAZE 10K JA 1/10W
R2163	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2165	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2166	401 150 6100	MT-GLAZE 2.2K JA 1/10W
R2167	401 256 6905	MT-GLAZE 680 JA 1/10W
R2168	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2173	401 256 3805	MT-GLAZE 1.5K JA 1/10W
R2174	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2181	401 256 6004	MT-GLAZE 27K JA 1/10W
R2182	401 150 5905	MT-GLAZE 10K JA 1/10W
R2183	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2186	401 150 6100	MT-GLAZE 2.2K JA 1/10W
R2187	401 256 6905	MT-GLAZE 680 JA 1/10W
R2188	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R2193	401 256 3805	MT-GLAZE 1.5K JA 1/10W
R2194	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R3001	401 255 6500	MT-GLAZE 100 JA 1/10W
R3002	401 255 6500	MT-GLAZE 100 JA 1/10W
R3011	401 256 0309	MT-GLAZE 820 JA 1/10W
R3012	401 256 0309	MT-GLAZE 820 JA 1/10W
R3013	401 150 5806	MT-GLAZE 100K JA 1/10W
R3014	401 150 5806	MT-GLAZE 100K JA 1/10W
R3018	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R3019	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R3021	401 162 4101	MT-GLAZE 5.6K JA 1/10W
R3022	401 162 4101	MT-GLAZE 5.6K JA 1/10W
R3023	401 256 4109	MT-GLAZE 56 JA 1/10W
R3024	401 256 4109	MT-GLAZE 56 JA 1/10W
R3031	401 150 6001	MT-GLAZE 0.000 ZA 1/10W

Schematic Location	Part No.	Description
R3032	401 150 5806	MT-GLAZE 100K JA 1/10W
R3033	401 150 5905	MT-GLAZE 10K JA 1/10W
R3034	401 150 5905	MT-GLAZE 10K JA 1/10W
R7201	401 256 0002	MT-GLAZE 120 JA 1/10W
R7202	401 256 0002	MT-GLAZE 120 JA 1/10W
R7203	401 162 2701	MT-GLAZE 180 JA 1/10W
R7206	401 256 0002	MT-GLAZE 120 JA 1/10W
R7207	401 256 0002	MT-GLAZE 120 JA 1/10W
R7208	401 162 2701	MT-GLAZE 180 JA 1/10W
R7216	401 255 8702	MT-GLAZE 22 JA 1/10W
R7217	401 255 8702	MT-GLAZE 22 JA 1/10W
R7218	401 255 8702	MT-GLAZE 22 JA 1/10W
R7219	401 255 8702	MT-GLAZE 22 JA 1/10W
R7220TM	401 024 7400	CARBON 10K JA 1/6W
R7222	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7223	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7224	401 150 5905	MT-GLAZE 10K JA 1/10W
R7226	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7231	401 256 0002	MT-GLAZE 120 JA 1/10W
R7232	401 256 0002	MT-GLAZE 120 JA 1/10W
R7233	401 162 2701	MT-GLAZE 180 JA 1/10W
R7236	401 256 0002	MT-GLAZE 120 JA 1/10W
R7237	401 256 0002	MT-GLAZE 120 JA 1/10W
R7238	401 162 2701	MT-GLAZE 180 JA 1/10W
R7241	401 256 0002	MT-GLAZE 120 JA 1/10W
R7242	401 256 0002	MT-GLAZE 120 JA 1/10W
R7243	401 162 2701	MT-GLAZE 180 JA 1/10W
R7246	401 255 8702	MT-GLAZE 22 JA 1/10W
R7247	401 255 8702	MT-GLAZE 22 JA 1/10W
R7248	401 255 8702	MT-GLAZE 22 JA 1/10W
R7249	401 255 8702	MT-GLAZE 22 JA 1/10W
R7251	401 255 8702	MT-GLAZE 22 JA 1/10W
R7252	401 255 8702	MT-GLAZE 22 JA 1/10W
R7253	401 255 9006	MT-GLAZE 82 JA 1/10W
R7254	401 255 8702	MT-GLAZE 22 JA 1/10W
R7256	401 255 8702	MT-GLAZE 22 JA 1/10W
R7261	401 162 2909	MT-GLAZE 220 JA 1/10W
R7262	401 162 2909	MT-GLAZE 220 JA 1/10W
R7263	401 162 2909	MT-GLAZE 220 JA 1/10W
R7264	401 150 6209	MT-GLAZE 1K JA 1/10W
R7266	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7267	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7268	401 255 8702	MT-GLAZE 22 JA 1/10W
R7269	401 255 8702	MT-GLAZE 22 JA 1/10W
R7272	401 255 8702	MT-GLAZE 22 JA 1/10W
R7273	401 255 8702	MT-GLAZE 22 JA 1/10W
R7274	645 025 7797	INDUCTOR 120 OHM
R7281	401 255 8702	MT-GLAZE 22 JA 1/10W
R7282	401 255 8702	MT-GLAZE 22 JA 1/10W
R7288	401 150 5905	MT-GLAZE 10K JA 1/10W
R7289	401 150 5905	MT-GLAZE 10K JA 1/10W
R7296	401 150 5905	MT-GLAZE 10K JA 1/10W
R7297	401 150 5905	MT-GLAZE 10K JA 1/10W
R7298	401 150 5905	MT-GLAZE 10K JA 1/10W
R7299	401 150 5905	MT-GLAZE 10K JA 1/10W
R7301	401 150 6001	MT-GLAZE 0.000 ZA 1/10W

Schematic Location	Part No.	Description
R7302	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7303	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7304	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7305	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7306	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7307	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7308	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7309	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7310	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7596	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R7597	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8001	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8002	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8003	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8004	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8005	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8061	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8062	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8063	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8064	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8065	401 150 6001	MT-GLAZE 0.000 ZA 1/10W
R8066	401 152 3206	MT-GLAZE 330 JA 1/10W
R8086	401 255 6500	MT-GLAZE 100 JA 1/10W
R8087	401 255 6500	MT-GLAZE 100 JA 1/10W
R8088	401 255 6500	MT-GLAZE 100 JA 1/10W
R8089	401 255 6500	MT-GLAZE 100 JA 1/10W
R8092	401 255 6500	MT-GLAZE 100 JA 1/10W
R8094	401 255 6500	MT-GLAZE 100 JA 1/10W
R8096	401 255 6500	MT-GLAZE 100 JA 1/10W
R8097	401 255 6500	MT-GLAZE 100 JA 1/10W
R8098	401 150 6001	MT-GLAZE 0.000 ZA 1/10W

SURGE-ABSORBERS

SC1001	645 076 3502	SURGE-ABSORBER
SC1002	645 076 3502	SURGE-ABSORBER
SC1003	645 076 3502	SURGE-ABSORBER
SC1901	645 076 3502	SURGE-ABSORBER
SC1902	645 045 7449	SURGE-ABSORBER
SC1903	645 045 7449	SURGE-ABSORBER
SC1904	645 076 3502	SURGE-ABSORBER

Schematic Location	Part No.	Description

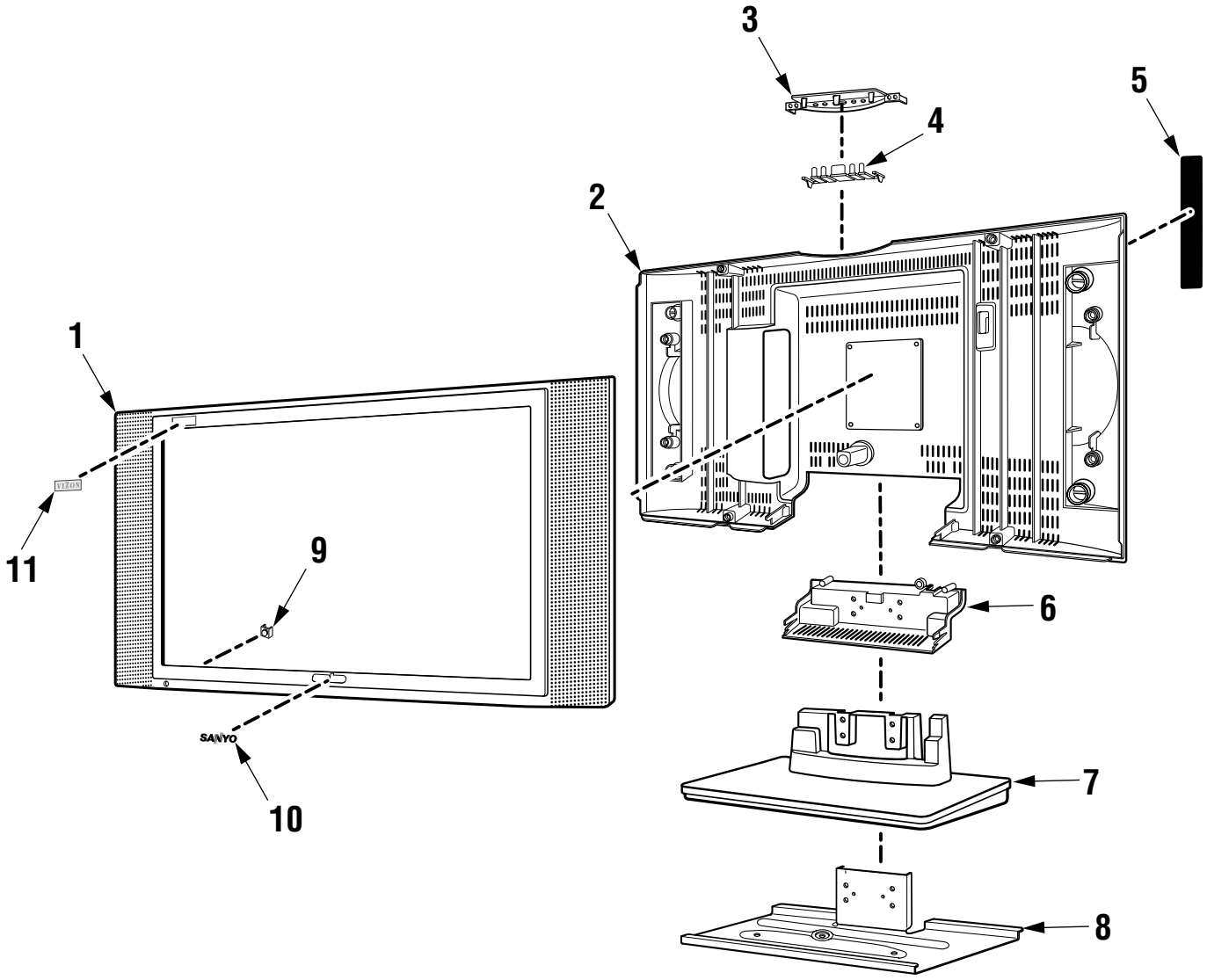
SWITCHES

SW1901	645 026 2791	SWITCH, PUSH 1P-1TX1
SW1902	645 026 2791	SWITCH, PUSH 1P-1TX1
SW1903	645 026 2791	SWITCH, PUSH 1P-1TX1
SW1904	645 026 2791	SWITCH, PUSH 1P-1TX1
SW1906	645 026 2791	SWITCH, PUSH 1P-1TX1

MISCELLANEOUS

A002	610 320 1085	ASSY, PWB, POWER
★ A101	645 067 2064	TUNER, TU/IF/DEC
A1101	610 320 1047	ASSY, PWB, MAIN, N2TE
A1102	610 320 1054	ASSY, PWB, CONTROL, N2TE
A1103	610 320 1061	ASSY, PWB, RC, N2TE
A1961	645 075 9734	UNIT, REMOCON, RECEIVER
★ EL901	645 075 4999	LCD (V230W1-L02)
★ F1600	423 022 2102	FUSE 250V 4A
F1600A	645 006 4760	HOLDER, FUSE
F1600B	645 006 4760	HOLDER, FUSE
K1001	652 001 4749	SOCKET, DIN 4P
K1002	652 001 4787	JACK, RCA-6
K1003	652 001 4763	JACK, RCA-1
K1004	652 001 4770	JACK, RCA-4
K1005F	652 001 5395	JACK, RCA-2
SP901	652 001 3438	SPEAKER, 8
	652 001 3476	SPEAKER, 8
SP902	652 001 3438	SPEAKER, 8
	652 001 3476	SPEAKER, 8
★ T1601	645 075 2100	TRANS, POWER, PULSE
★ VA1600	408 018 9808	VARISTOR ENC271D-14AS
★ W1600	645 075 4647	CORD, POWER-2
	645 075 4654	CORD, POWER-2
X801	645 053 8810	OSC, CERAMIC 16.0MHZ
X2001	645 066 4069	OSC, CRYSTAL 42MHZ

CABINET PARTS LIST



CABINET PARTS LIST

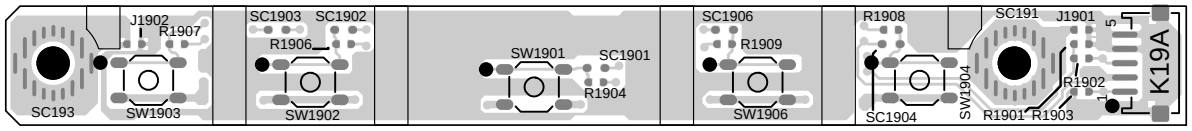
KEY NO.	PARTS NO.	DESCRIPTION
1	610 320 2709	CABINET FRONT
2	610 320 2716	CABINET BACK
3	610 320 2891	PANEL TOP-N2TE
4	610 312 3301	BUTTON-N2HE
5	610 320 2761	DEC AV SHEET-N2TE
6	610 320 2730	COVER BTM-N2TE
7	610 320 2969	STAND TOP-N2TE
8	610 320 2952	STAND BASE-N2TE
9	610 320 2747	DEC RC-N2TE
10	645 066 7213	BADGE, SANYO*35.0X7.5L35.0
11	610 320 2754	DEC SHEET VIZON-N2TE

ACCESSORY PARTS LIST

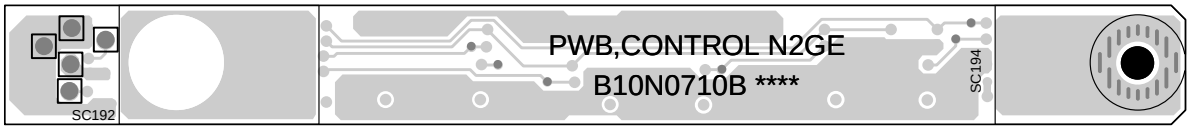
KEY NO.	PARTS NO.	DESCRIPTION
	610 320 3133	OWNER'S MANUAL
	645 075 1127	ASSY, REMOCON
	610 320 2006	RC BATTERY LID

COMPONENT AND TESTPOINT LOCATIONS

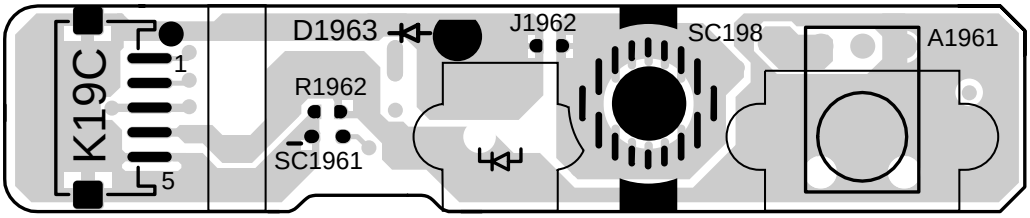
CONTROL BOARD PART SIDE



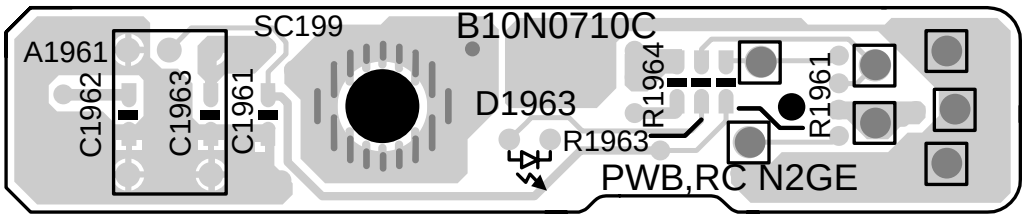
CONTROL BOARD FOIL SIDE



RC BOARD PART SIDE

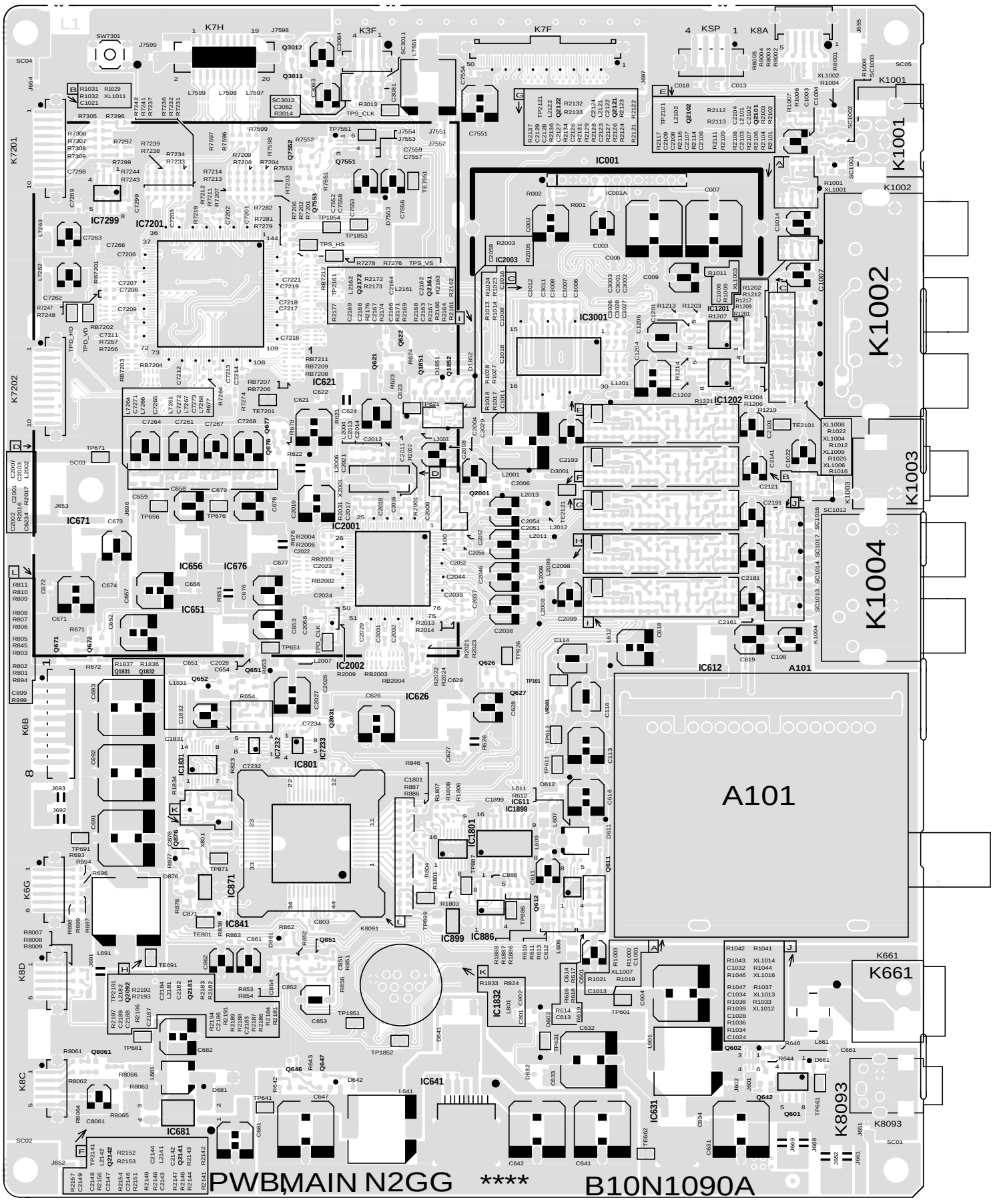


RC BOARD FOIL SIDE

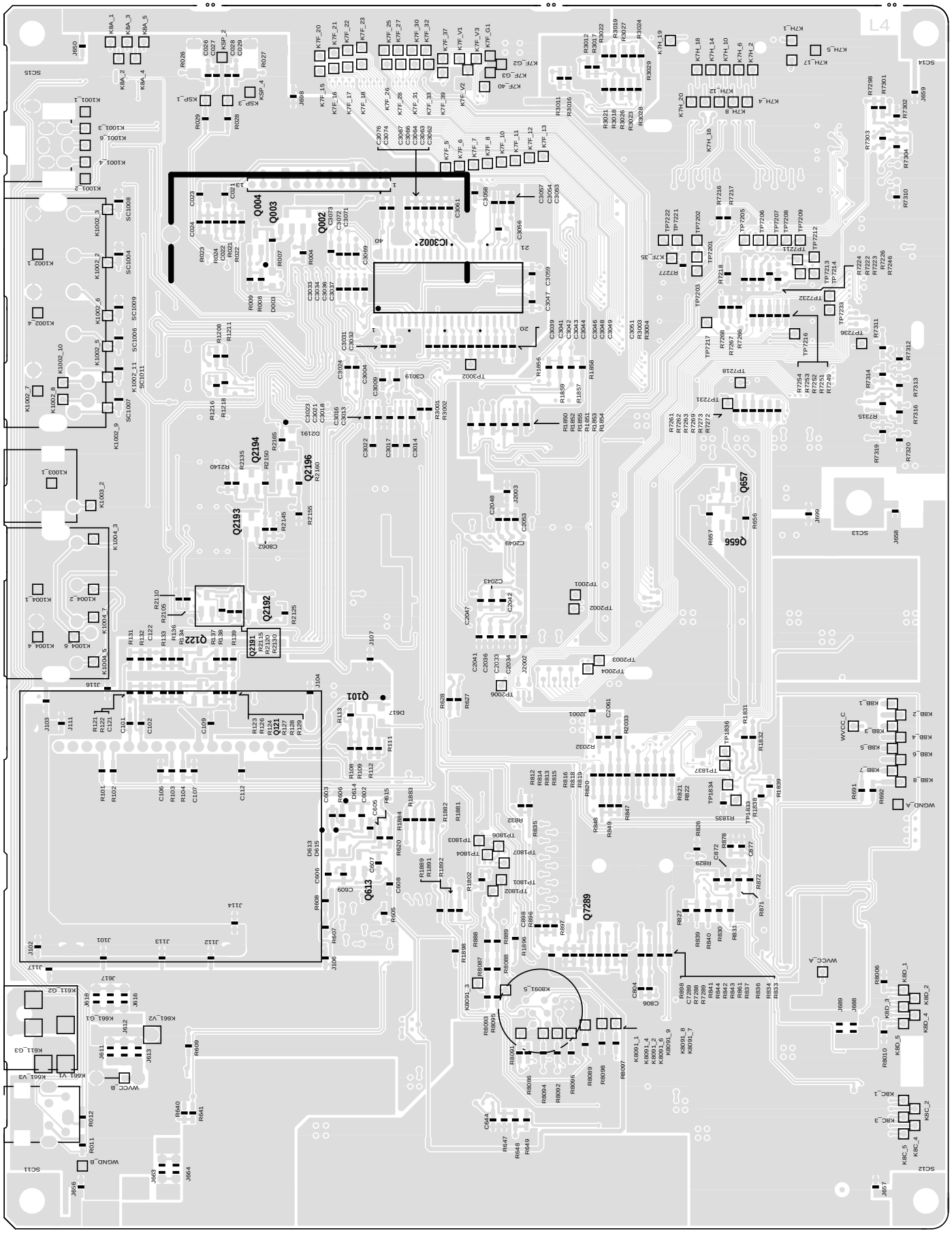


COMPONENT AND TESTPOINT LOCATIONS (Cont.)

MAIN BOARD PARTS SIDE

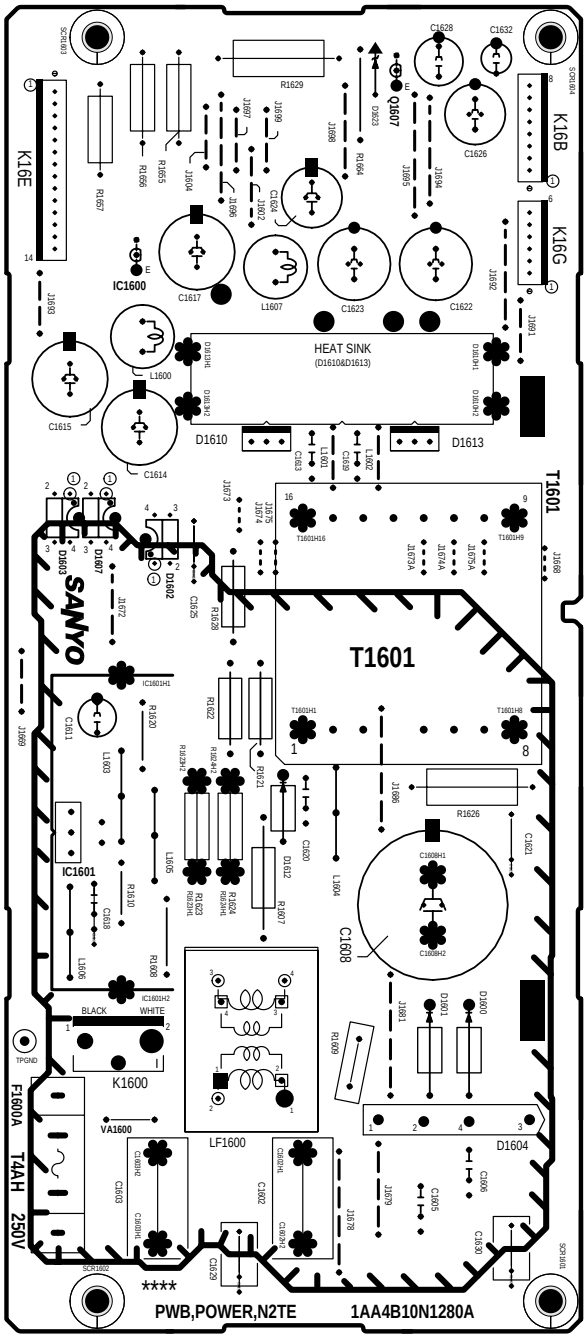


MAIN BOARD FOIL SIDE

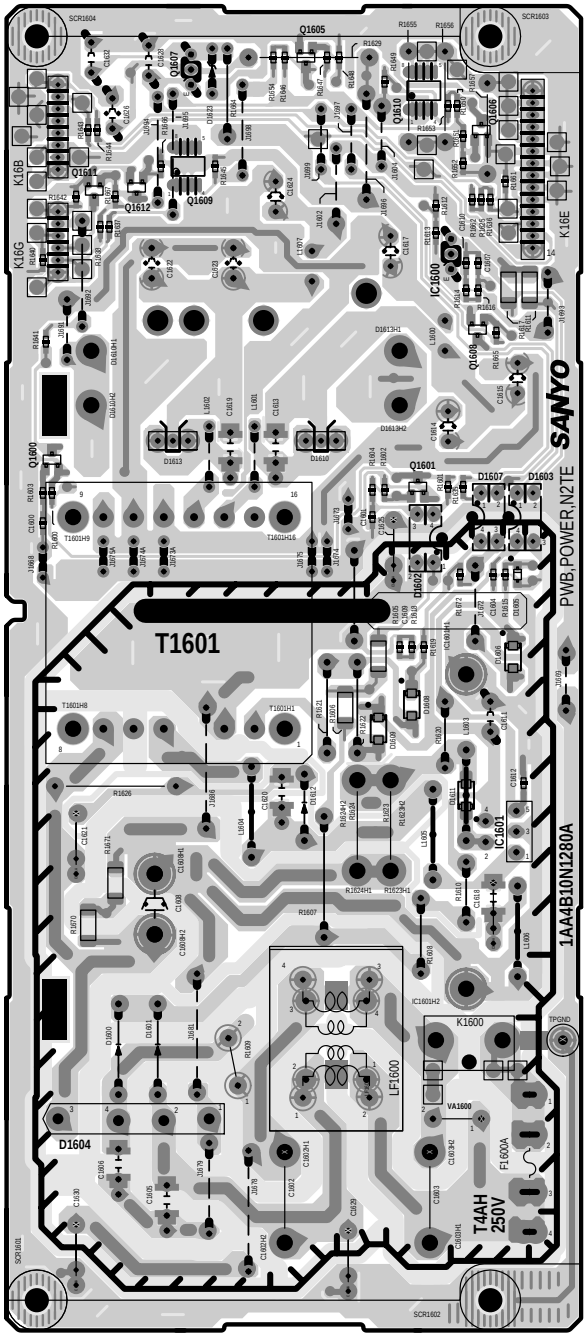


COMPONENT AND TESTPOINT LOCATIONS (Cont.)

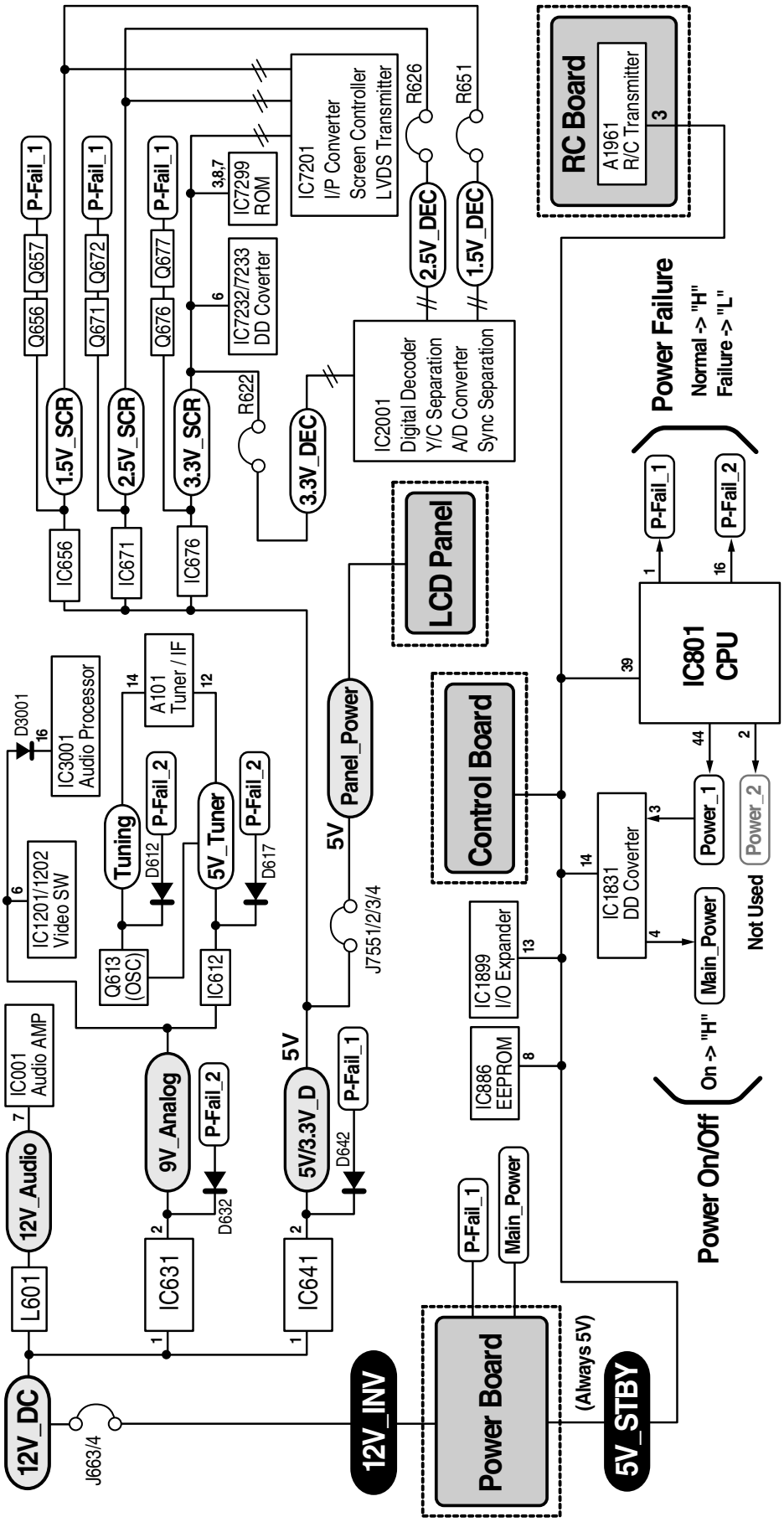
POWER BOARD PARTS SIDE



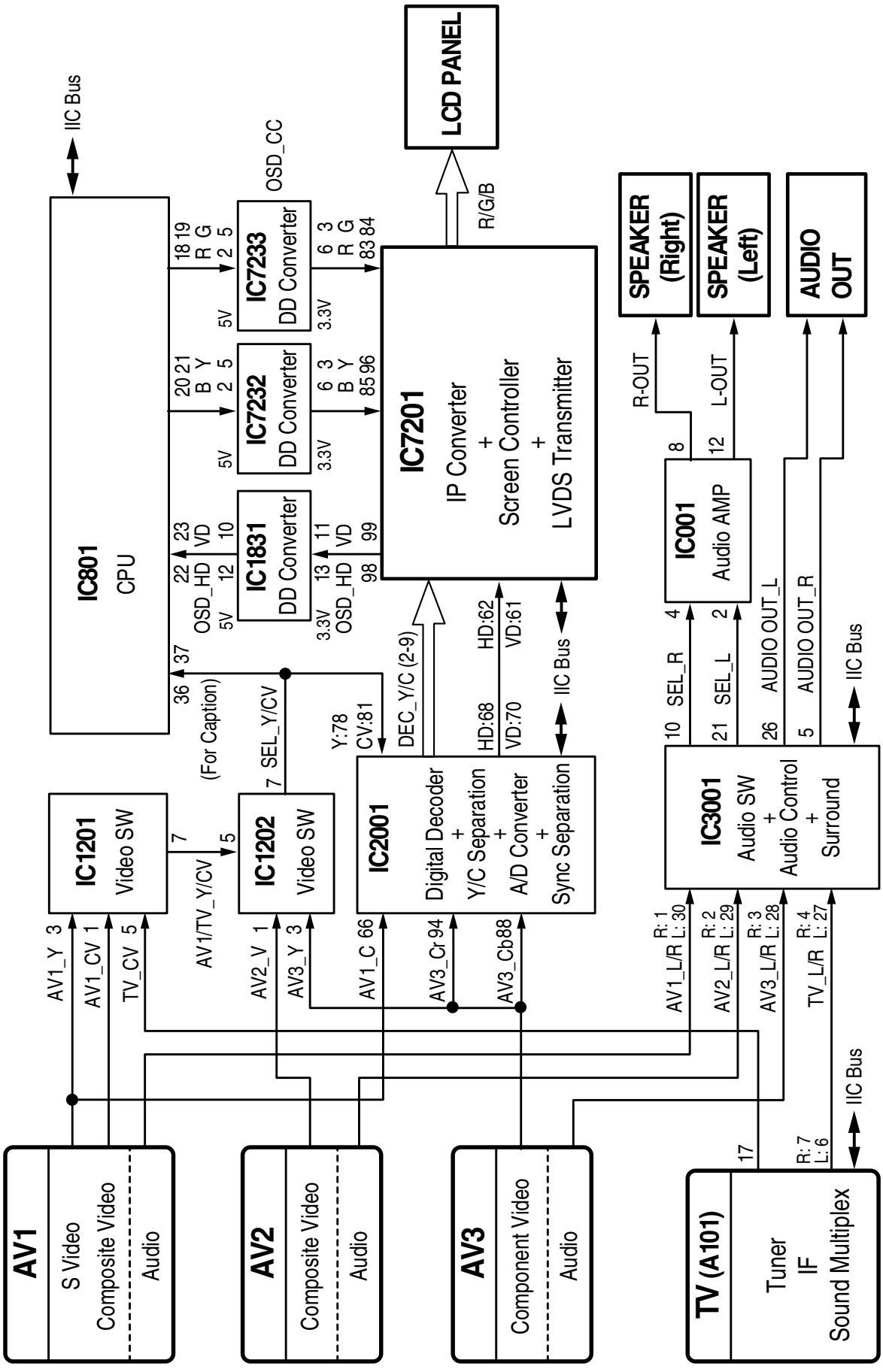
POWER BOARD FOIL SIDE



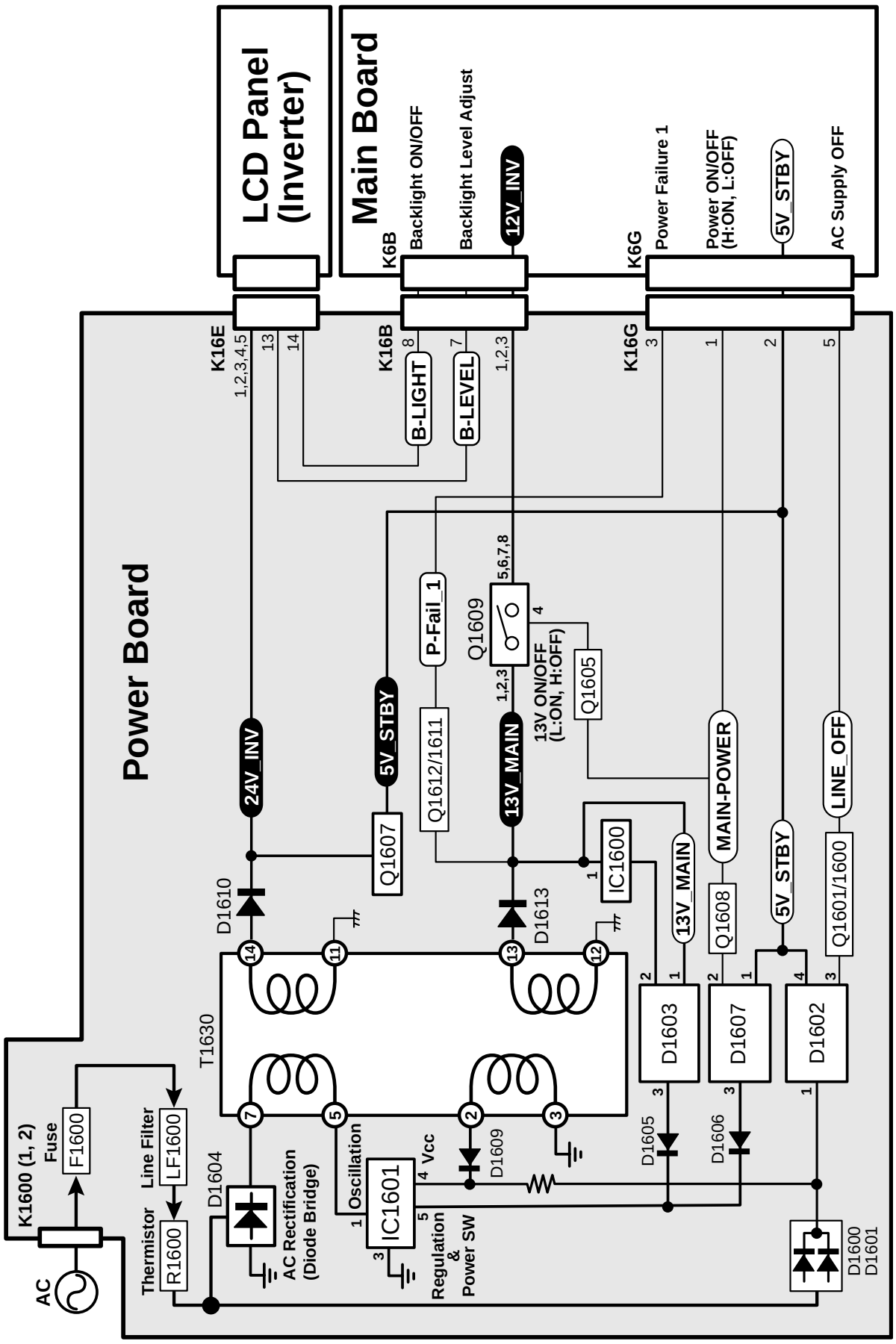
BLOCK DIAGRAM POWER LINES



BLOCK DIAGRAM SIGNAL LINES

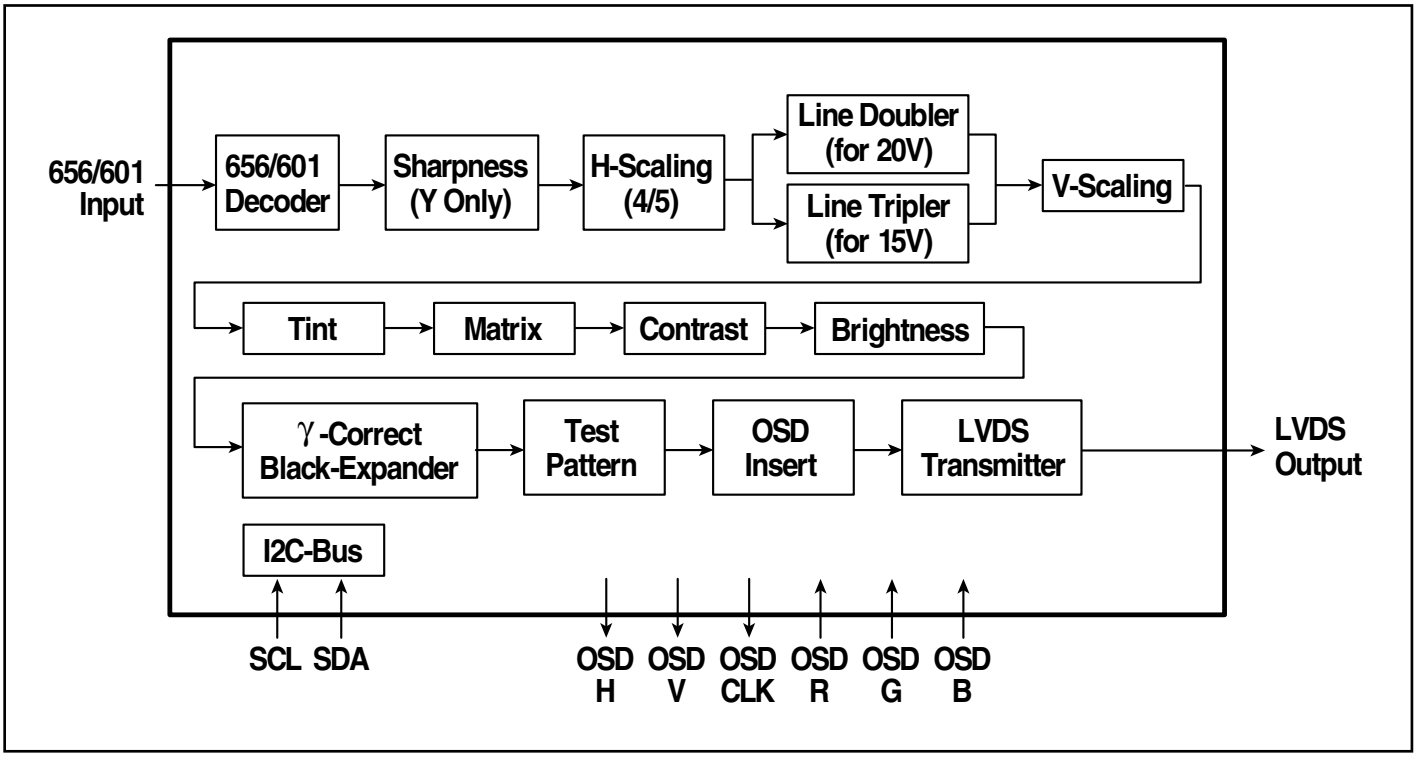


BLOCK DIAGRAM POWER BOARD

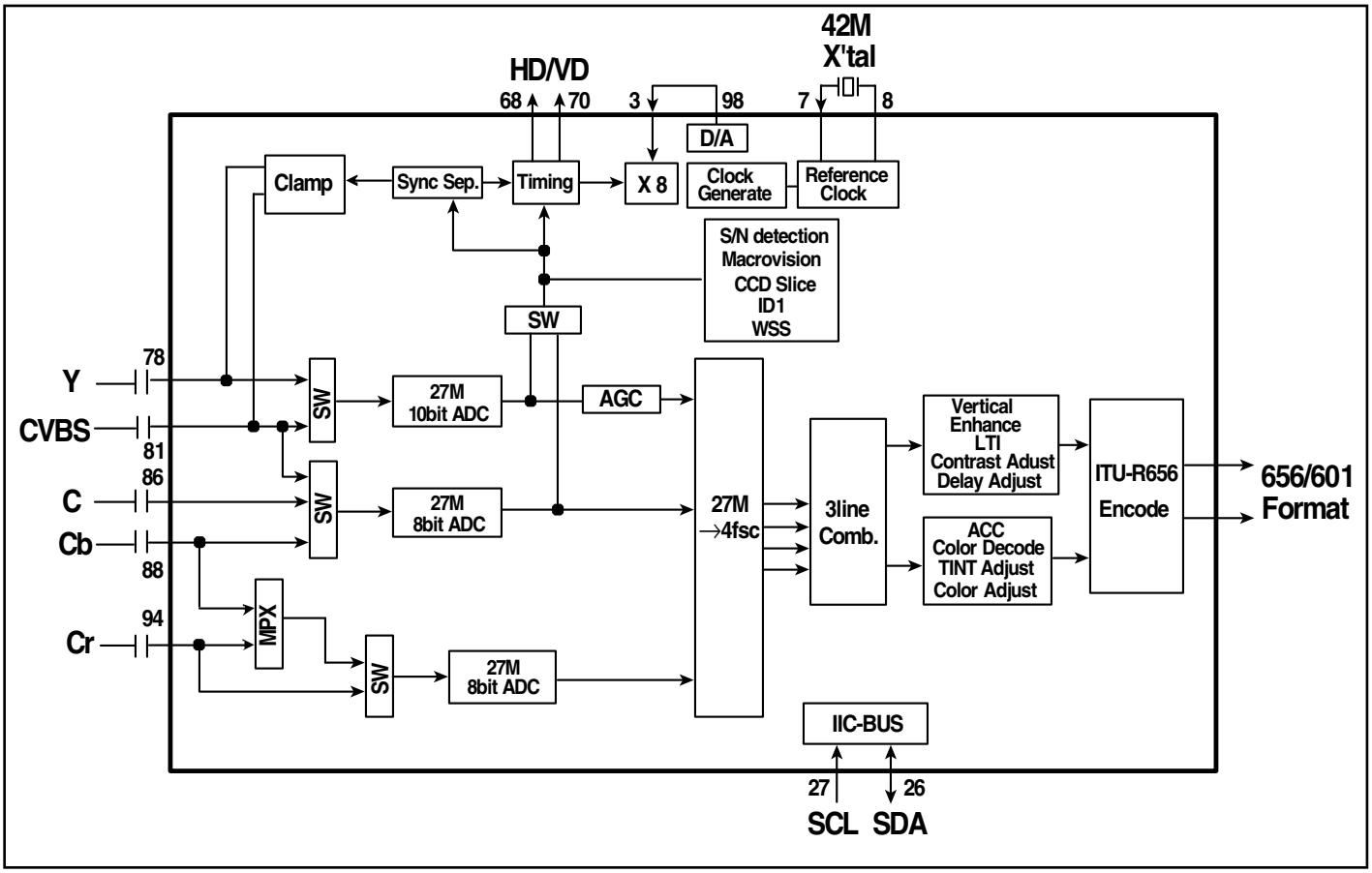


IC BLOCK DIAGRAMS

IP Converter/Screen Controller/LVDS Transmitter (IC7201)

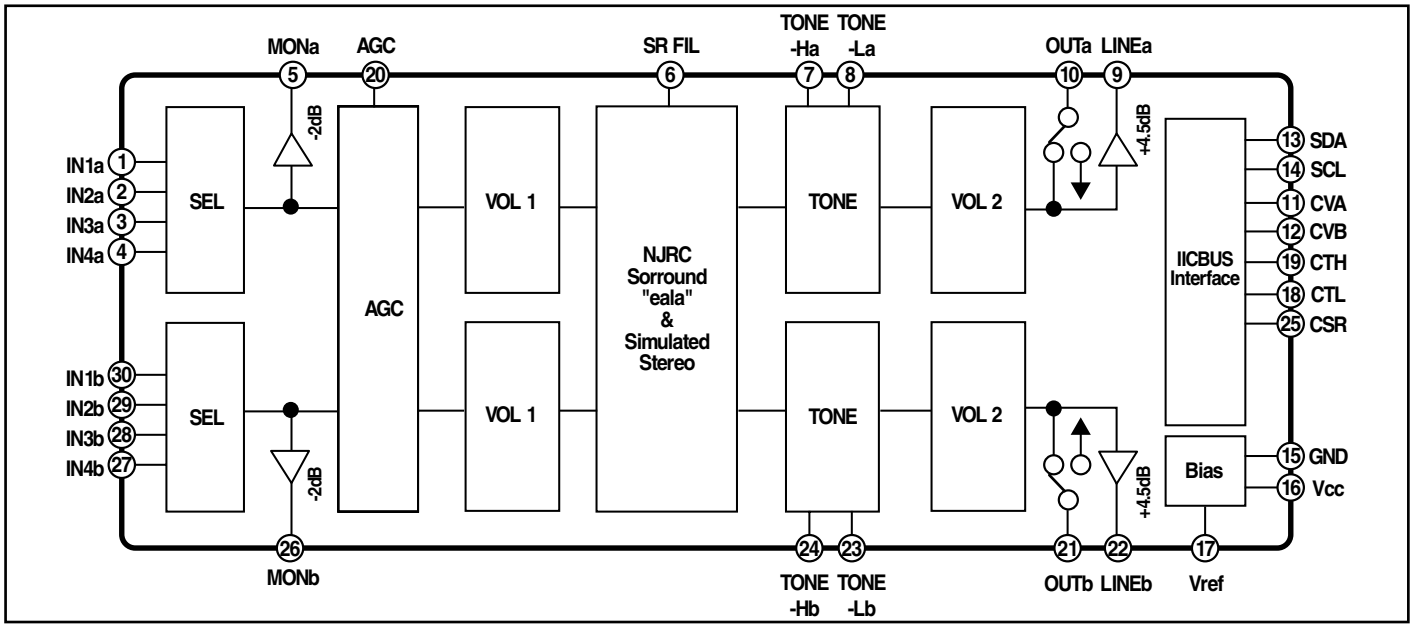


Digital Decoder (IC2001)

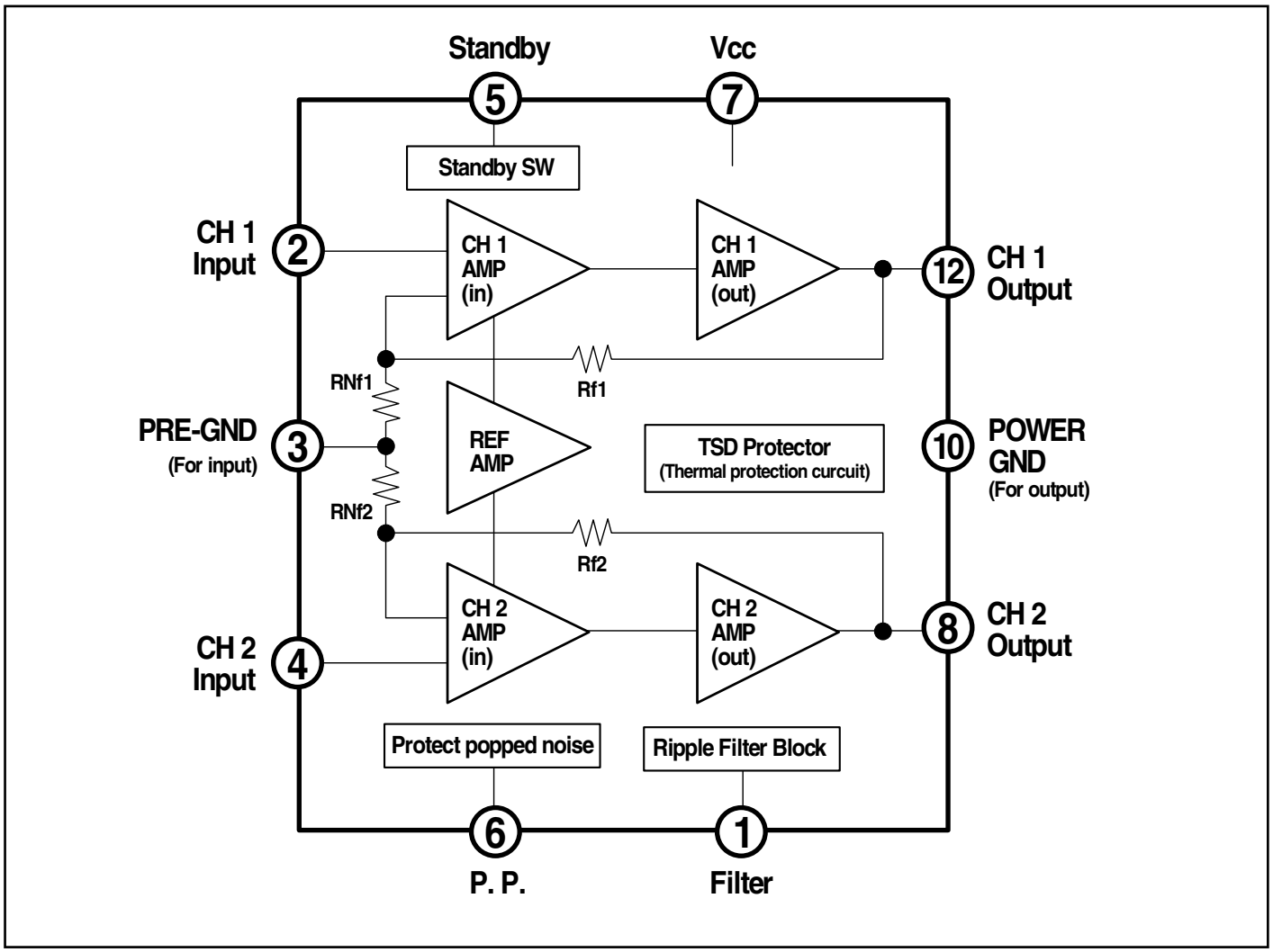


IC BLOCK DIAGRAMS (CONT.)

Audio Processor (IC3001)

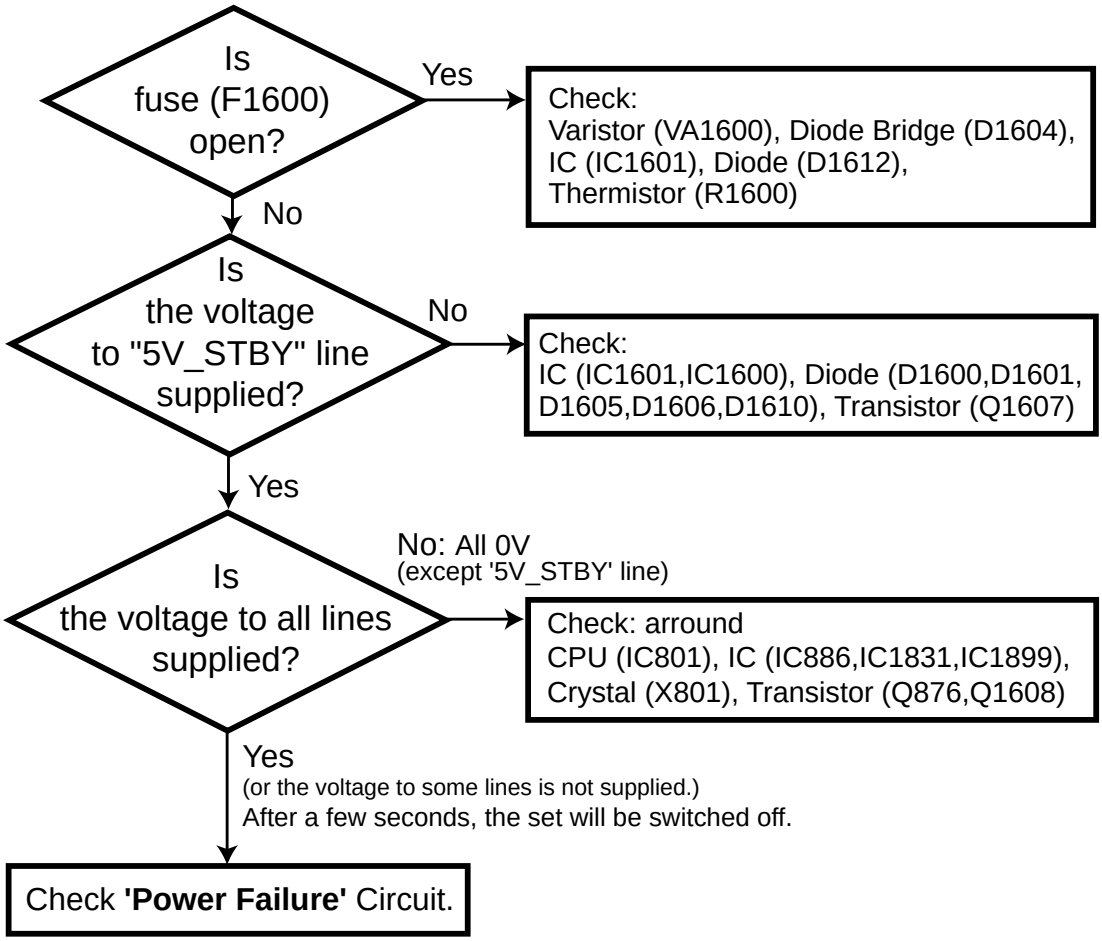


Audio AMP (IC001)



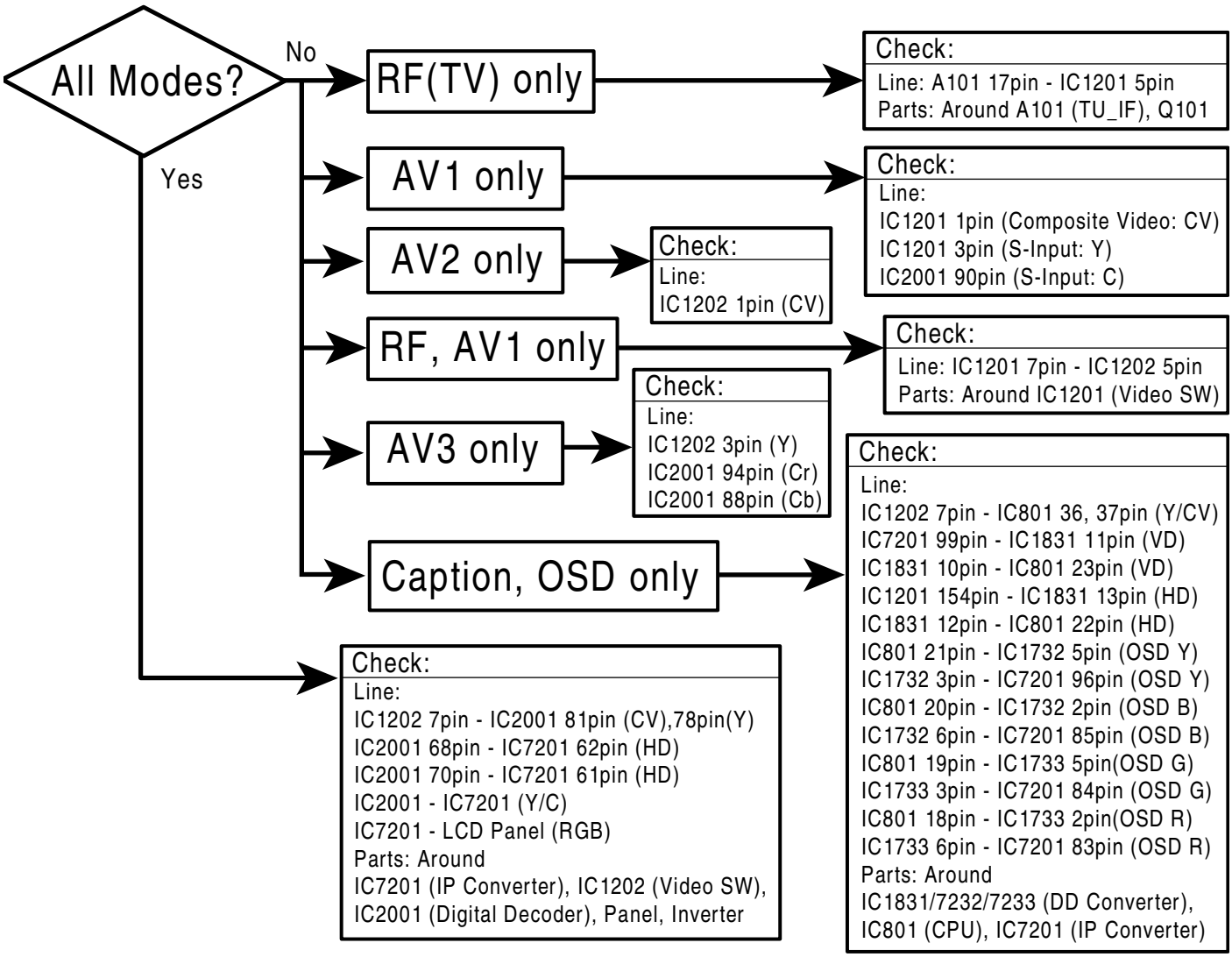
TROUBLE SHOOTING FLOW CHARTS

NO POWER

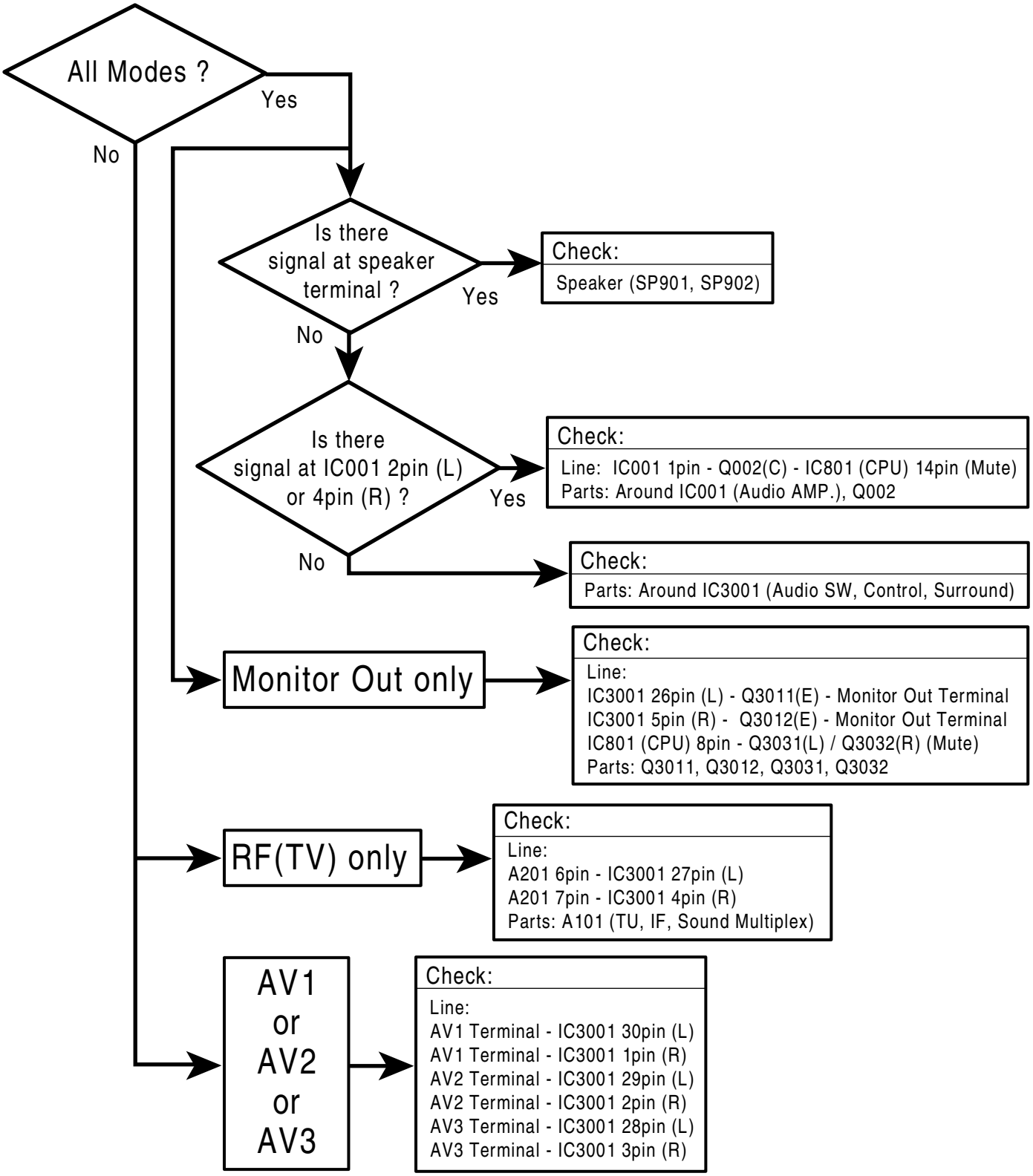

Is fuse (F1600) open?
Yes
Check: Varistor (VA1600), Diode Bridge (D1604), IC (IC1601), Diode (D1612), Thermistor (R1600)
No
Is the voltage to "5V_STBY" line supplied?
No
Check: IC (IC1601,IC1600), Diode (D1600,D1601, D1605,D1606,D1610), Transistor (Q1607)
Yes
Is the voltage to all lines supplied?
No: All 0V (except '5V_STBY' line)
Check: arround CPU (IC801), IC (IC886,IC1831,IC1899), Crystal (X801), Transistor (Q876,Q1608)
Yes (or the voltage to some lines is not supplied.) After a few seconds, the set will be switched off.
Check **'Power Failure'** Circuit.

TROUBLE SHOOTING FLOW CHARTS (CONT.)

NO VIDEO



NO AUDIO


All Modes ?
Yes
No
Is there signal at speaker terminal ?
Yes
Check:
Speaker (SP901, SP902)
No
Is there signal at IC001 2pin (L) or 4pin (R) ?
Yes
Check:
Line: IC001 1pin - Q002(C) - IC801 (CPU) 14pin (Mute)
Parts: Around IC001 (Audio AMP.), Q002
No
Check:
Parts: Around IC3001 (Audio SW, Control, Surround)
Monitor Out only
Check:
Line:
IC3001 26pin (L) - Q3011(E) - Monitor Out Terminal
IC3001 5pin (R) - Q3012(E) - Monitor Out Terminal
IC801 (CPU) 8pin - Q3031(L) / Q3032(R) (Mute)
Parts: Q3011, Q3012, Q3031, Q3032
RF(TV) only
Check:
Line:
A201 6pin - IC3001 27pin (L)
A201 7pin - IC3001 4pin (R)
Parts: A101 (TU, IF, Sound Multiplex)
AV1 or AV2 or AV3
Check:
Line:
AV1 Terminal - IC3001 30pin (L)
AV1 Terminal - IC3001 1pin (R)
AV2 Terminal - IC3001 29pin (L)
AV2 Terminal - IC3001 2pin (R)
AV3 Terminal - IC3001 28pin (L)
AV3 Terminal - IC3001 3pin (R)

CONTROL PORT FUNCTIONS

System Control (CPU : IC801)

Pin	Name	Function	I/O	Description
1	P44	P-FAIL(DIGITAL)	IN	Power Failure for Digital Circuit, Failure : Low
2	P45	POWER-2	OUT	Power port for LCD panel, Panel On : Low
3	P46	ACK	OUT	IIC bus control for factory, Detect STATUS : Low
4	P47	STATUS	IN	IIC bus control for factory, Connect to factory line : Low
5	INT0	AC FAIL	IN	AC Shut-off port, Low : AMP Mute -> On
6	SCL1	SCL1	I/O	IIC Bus port for EEPROM, SCL : Clock
7	SDA1	SDA1	I/O	IIC Bus port for EEPROM, SDA : Data
8	P53	POWER-3	OUT	Power port for audio circuit, Power On : High
9	AIN1	PANEL OPT	IN	For Panel Option and BBE
10	P55	S-IN	IN	For S detection, Low : S-Input
11	AIN3	AFT	IN	AFT Voltage Input (RF)
12	AIN4	KEY IN	IN	Key Input
13	AIN5	APL	IN	APL Voltage Input
14	P62	AMP MUTE	OUT	Mute : High
15	P63	IO RESET	OUT	For color decoder, Reset : High
16	P57	P-FAIL(ANALOG)	IN	Power Failure for Analog Circuit, Failure : Low
17	N.C.	–	–	Not used
18	R	OSD-R	OUT	OSD-R Output
19	G	OSD-G	OUT	OSD-G Output
20	B	OSD-B	OUT	OSD-B Output
21	Y	OSD-Y	OUT	OSD-Y Output
22	HD	OSD-HD	IN	OSD-Hsync Output
23	VD	OSD-VD	IN	OSD-Vsync Output
24	OSC1	OSC-CLK	IN	Clock Input for OSD
25	OSC2	OSC-CLK	OUT	Clock Output for OSD
26	TEST	TEST	IN	Test port
27	XIN	XIN	IN	Main Clock Input
28	XOUT	XOUT	OUT	Main Clock Output
29	RESET	RESET	IN	Reset port, Reset : Low level input
30	P20		IN	Not Used (Connect to Ground)
31	RXIN	RC IN	IN	RC Input
32	P31	LED	OUT	For LED, Power On : High
33	SCL0	SCL0	I/O	IIC Bus port for IC
34	SDA0	SDA0	I/O	IIC Bus port for IC
35	VVSS	VVSS	IN	Connect to ground
36	VIN1	VIDEO IN1	IN	CCD Data Slicer
37	VIN2	VIDEO IN2	IN	CCD Data Slicer
38	N.C.	–	–	Not used
39	VDD	VDD	–	5V
40	VSS	VSS	–	GND
41	P40	SCR RESET	OUT	Reset port for Scaler, Reset : High output
42	P41	B-LIGHT	OUT	For panel back light On/Off, Light On : High
43	PWM2	B-BRIGHT	OUT	For back light brightness, PWM Output, Bright : Low
44	P43	POWER-1	O	Power port for main, Power On : Low

I/O Expander (IC899)

Pin	Name	Function	I/O	Description
1	SO	SERIAL OUTPUT	–	
2	SCL	BUS SCL	I/O	IIC Bus port, SCL : Clock
3	SDA	BUS SDA	I/O	IIC Bus port, SDA : Data
4	D0	–	IN	NOT USED
5	D1	–	IN	NOT USED
6	D2	–	IN	NOT USED
7	D3	–	IN	NOT USED
8	GND	GND	I	
9	D4	AV SWITCH 1	OUT	Connect to IC1001 2pin
10	D5	AV SWITCH 2	OUT	Connect to IC1001 4pin
11	D6	AV SWITCH 3	OUT	Connect to IC1002 2pin
12	D7	AV SWITCH 4	OUT	Connect to IC1002 4pin
13	VDD	VDD	–	5V
14	CS2	CHIP SELECT3	I	Fixed to Low
15	CS1	CHIP SELECT2	I	Fixed to Low
16	CS0	CHIP SELECT1	I	Fixed to Low

Mode Switching Table

Mode	SWITCH 1	SWITCH 2	SWITCH 3	SWITCH 4
TV	Low	High	Low	High
AV1 (Composite)	Low	Low	Low	High
AV1 (S-Input)	High	Low	Low	High
AV2	Low	Low	Low	Low

SCHEMATIC DIAGRAMS

NOTES ON SCHEMATIC DIAGRAMS

1. All resistance values in ohms K=1,000 M=1,000,000.
2. Unless otherwise noted on schematic, all capacitor values less than 1 are expressed in µF (Micro Farad), and the values more than 1 are in pF.
3. Unless otherwise noted on schematic, voltage reading taken with VOM from point indicated to chassis ground. Voltage reading taken using color-bar signal VHF channel 5, all controls at normal. Line voltage at 120 volts. Some voltages may vary with signal strength.
4. Waveforms were taken with color-bar signal and controls set for normal picture. Waveforms marked with an ✻ may vary with signal strength.
5. The Symbol ⚠ indicates a fusible resistor, which protects the circuit from possible short circuits.

SERVICE NOTES:

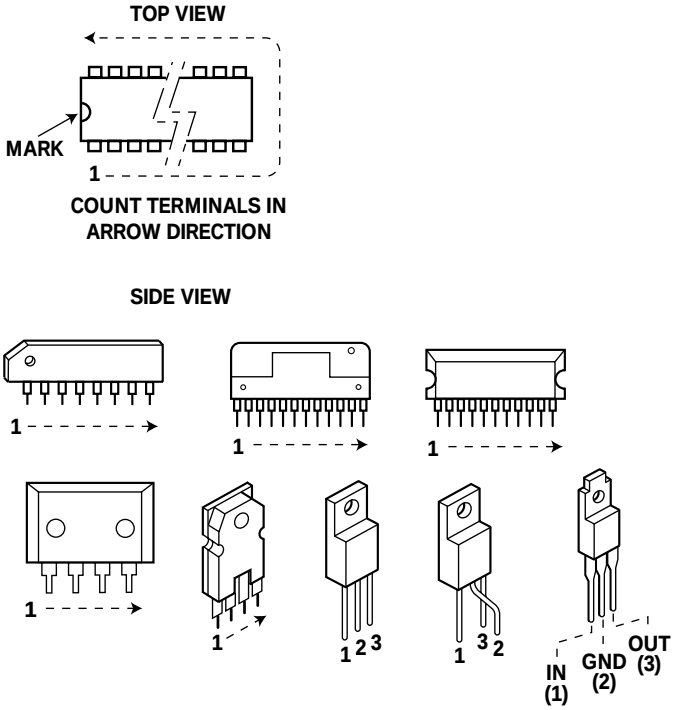
1. When replacing parts on circuit boards, clamp the lead wires to terminals before soldering.

PRODUCT SAFETY NOTICE

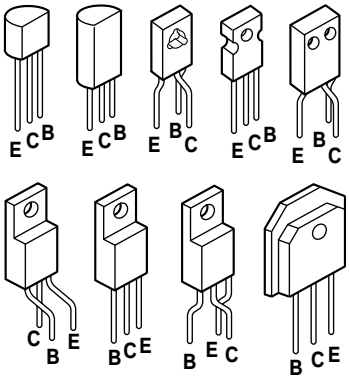
THE COMPONENTS DESIGNATED BY A STAR (★) ON THIS SCHEMATIC DIAGRAM DESIGNATE COMPONENTS WHOSE VALUES ARE OF SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. SHOULD ANY COMPONENT DESIGNATED BY A STAR NEED TO BE REPLACED, USE ONLY THE PART DESIGNATED IN THE PARTS LIST. DO NOT DEVIATE FROM THE RESISTANCE, WATTAGE AND VOLTAGE RATINGS SHOWN.

IC, DIODE, AND TRANSISTOR PIN LAYOUTS

INTEGRATED CIRCUITS

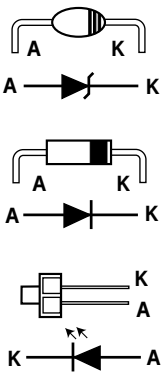


TRANSISTORS



B ... BASE
C ... COLLECTOR
E ... EMITTER

DIODES

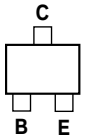


INFRARED EMITTING

A....ANODE
K....CATHODE

CHIP TRANSISTORS

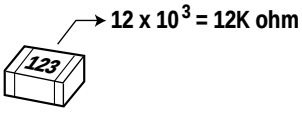
TOP VIEW



B ... BASE
C ... COLLECTOR
E ... EMITTER

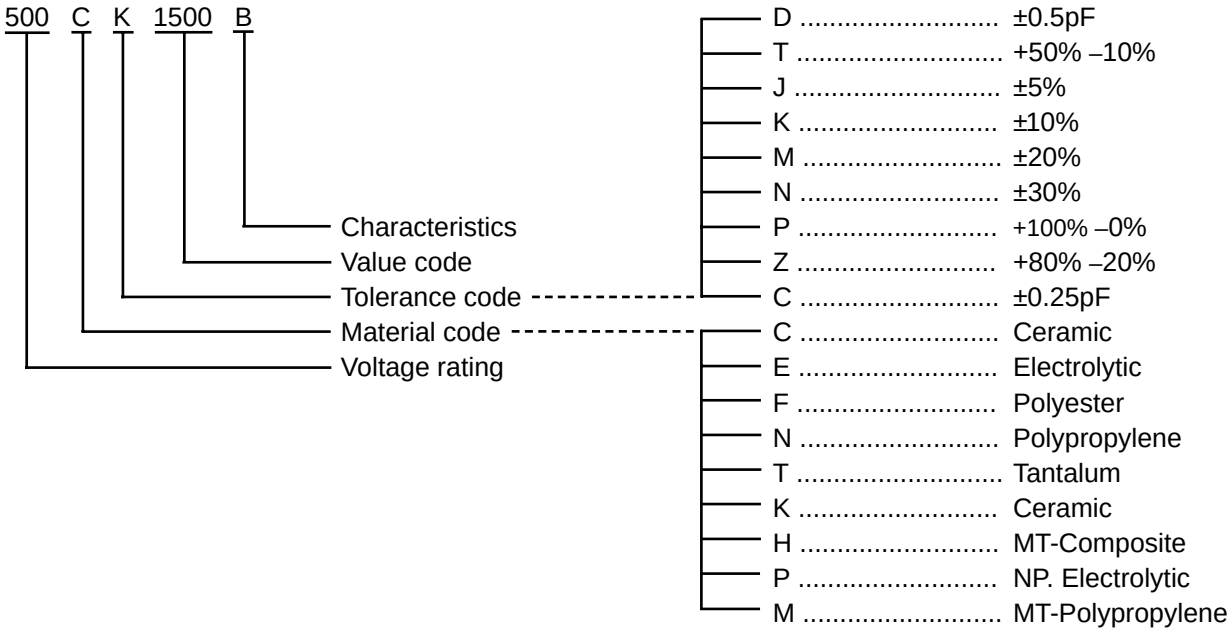
CHIP RESISTORS

TOP VIEW

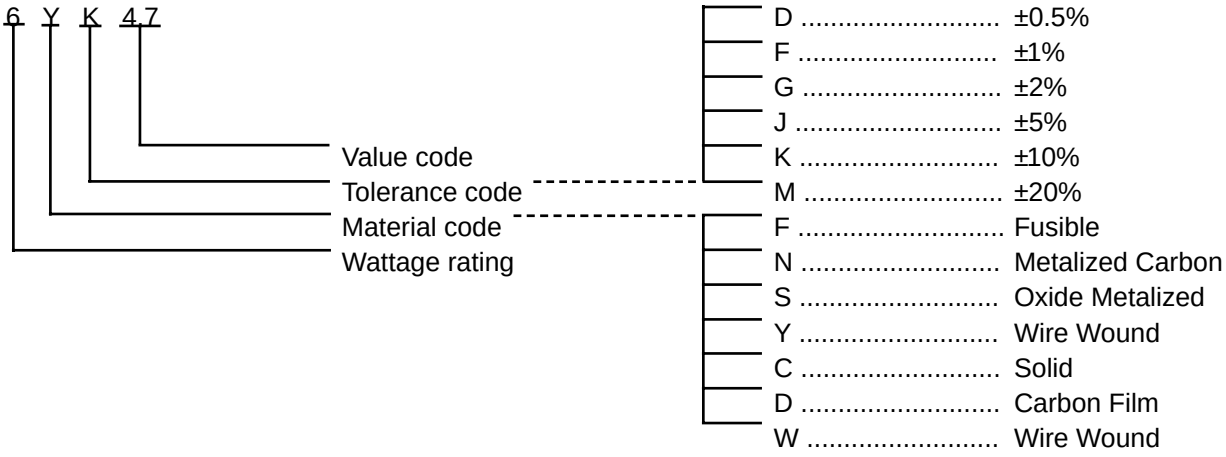


CAPACITOR AND RESISTOR CODE CHART

CAPACITOR (Example)



RESISTOR (Example)



For parts or service contact

SANYO Fisher Service Corporation

21605 Plummer Street
Chatsworth, CA 91311 (U.S.A.)

300 Applewood Crescent,
Concord, Ontario L4K 5C7 (CANADA)

March / 2005 / 2000 SMC

Printed in U.S.A.

LCD Module EL901 ★

Inverter

Panel

CN

CN1

Control

K19A J10EG055G

<CH-> <CH+> <POWER> <VOL-> <VOL+>

SCREW SC191 SC192 SC193 SC194

Power

K16E J10AU145N P=2.0 TOP LOWB(+24V2.5A)

Main

K7H

K8A

Speaker (L) SP901 Lch 1LB4A10B04500 :1LB4A10B04600

Speaker (R) SP902 Rch 1LB4A10 B04500 :1LB4A10 B04600

KSP

K16G

K6G

K16B

K6B

K8C

K3F

K1005F

Audio Out

RC K19C

SCREW SC198 SC199

A1961 U20B24401

IC1600 L5431 :TL431C-LPB :UPC1093J

IC1601 STR-G9628

T1601 L51B6510N

Q1610 TPC8109P

Q1609 TPC8109P

Q1600 Q1601 Q1606 Q1607 Q1608 Q1611 Q1612 Q1605

D1602 PC123YC2 D1603 PC123YC2 D1607 PC123YC2

D1604 D5SBA60-C3 :RBV-606LFB

D1605 D1606 D1608 D1609 D1610 YG906C2R :RF2001T2D D1611 D1612 EU2A D1613 FML-12S :YG901C2 :RF601T2D D1623 DZXLBZA5.6B

LF1600

VA1600 VEV0043

F1600 4A250VTCSL

W1600 AC Cord

TPGND J1669

SCREW SCR1601 SCR1602 SCR1603 SCR1604

P2/2

IC7201

IP Converter + Screen Controller + LVDS Transmitter

IC2001 TC90101FG Decoder

IC801 TMP88PS38BFG CPU

IC1899 M62320FP I/O Expander

IC3001 NJW1142MP Audio Processor

IC1201 NJM2535MP / IC1202 NJM2246MP Video (V/Y) SW

	AV_SW1	AV_SW2	AV_SW3	AV_SW4
TV(TV_CVBS)	L/H	H	L/H	H
AV1-COMP(AV1_V)	L	L	L/H	H
AV1-S(AV1_Y)	H	L	L/H	H
AV2(AV2_V)	L/H	L/H	L	L
AV3(AV3_Y)	L/H	L/H	H	L

IC001 LA42052-E Audio AMP.

IC1831 TC74VHCT04AFTP

IC641 PQ1CY1032ZPK

IC631 BA09FPP

IC841 TC7SET00FUP

IC612 L88M05TLP

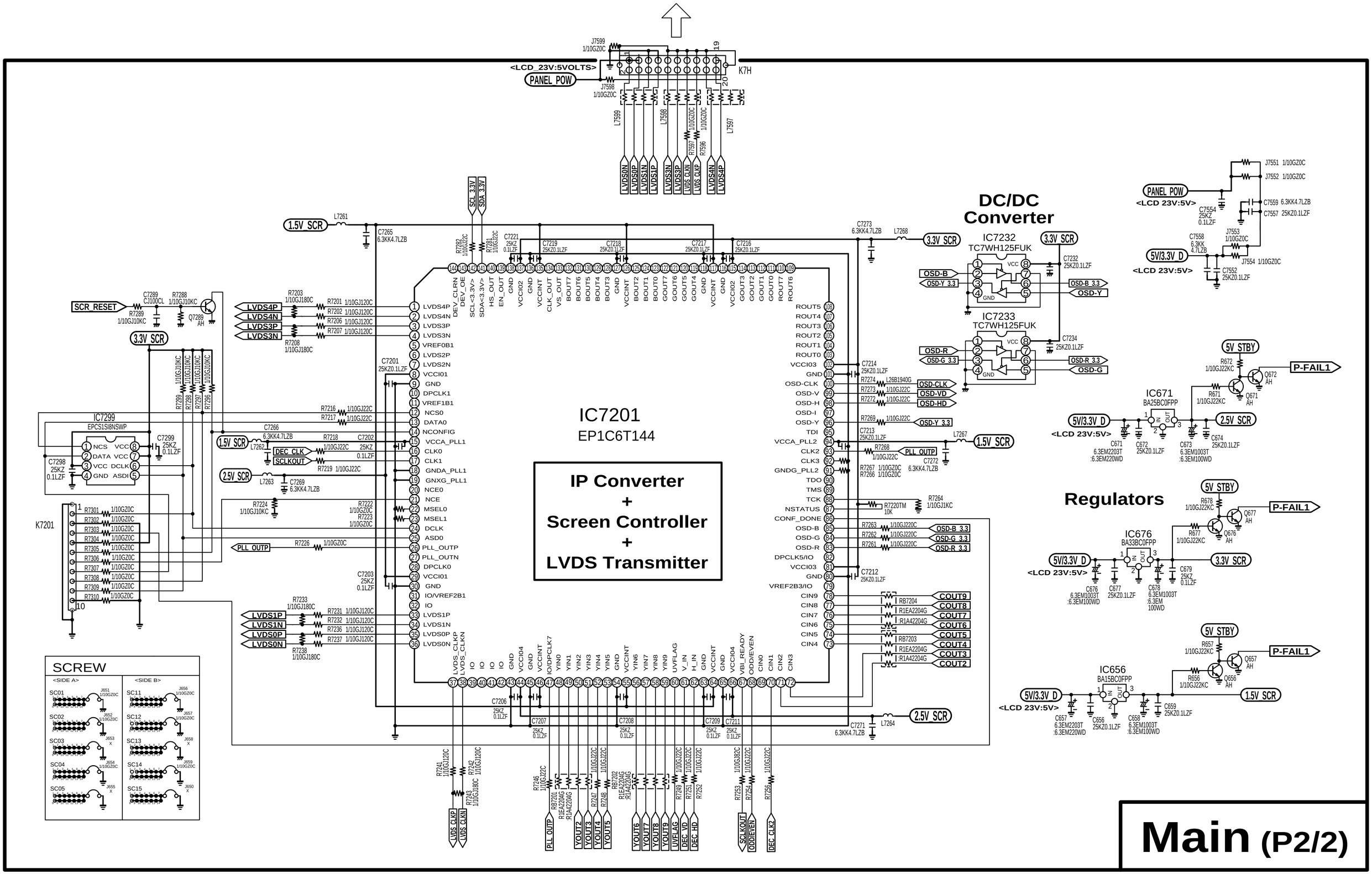
A101 F1FAM0152 ★ Tuner

K1001 S-VIDEO IN

K1002 / K1003 / K1004 VIDEO-IN2<TOP> VIDEO-IN1<BOTOM>

Main (P1/2)

To Panel



Main (P2/2)